

# WOLVERINE GAS AND OIL COMPANY

of Utah, LLC

Energy Exploration in Partnership with the Environment

September 19, 2005

Fluid Minerals Group Bureau of Land Management Richfield Field Office 150 East 900 North Richfield, Utah 84701

RE:

Application for Permit to Drill - Wolverine Gas & Oil Company of Utah, LLC

Wolverine Federal Arapien Valley #24-1

Surface Location: 2,358' FNL, 696' FWL, SW/4 NW/4

Target Location: 792' FNL, 1,868' FWL, NE/4 NW/4

Section 24, T20S, R1E, SLB&M, Sanpete County, Utah

Dear Fluid Minerals Group:

Wolverine Gas & Oil Company of Utah, LLC (Wolverine) respectfully submits the enclosed original and two copies of the *Application for Permit to Drill (APD)* for the above referenced directional well. Included with the APD is the following supplemental information:

Exhibit "A" - Survey plat and layout of the proposed well site;

Exhibit "B" - Road design and cross-sections;

Exhibit "C" - Proposed location maps with access corridor;

Exhibit "D" - Test Facility for oil well layout;

Exhibit "E" - Drilling prognosis with BOP diagram and directional survey calculations;

Exhibit "F" - Surface use plan

Please accept this letter as Wolverine's written request for confidential treatment of all information contained in and pertaining to this application

Thank you very much for your timely consideration of this application. Please feel free to contact myself or Don Hamilton of Buys & Associates, Inc. at 435-719-2018 if you have any questions or need additional information.

Sincerely.

Edward A. Higuera, Manager - Development

RECEIVED

DIV. OF OIL, GAS & MINING

CONFIDENTIAL

cc: Diana Whitney, Division of Oil, Gas and Mining

Lee Holmstead, Sanpete County Planning & Zoning Don Hamilton, Buys & Associates, Inc.

Don Hamilton, Buys & Associates, Inc. Dawn Martin, Buys & Associates, Inc.



## WOLVERINE OPERATING COMPANY

of Utah, LLC

Energy Exploration in Partnership with the Environment

October 26, 2005

Diana Whitney Utah Division of Oil, Gas & Mining 1594 W. N. Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re: Wolverine Federal Arapien Valley #24-1, Sanpete County, UT

Dear Ms. Whitney:

Wolverine Gas and Oil Company of Utah, LLC has submitted the attached APD for the Wolverine Federal Arapien Valley 24-1 to the BLM for approval. The well is planned to be a directional well, and we intend to hit the top of the Navajo, the target formation within the "400-foot square" and to TD the well no closer than 460 feet from the section line (see attached diagram). The well is being directionally drilled because of the topography of the area and to meet the distance requirement for an obligation well within the Federal Unit. The well bore will penetrate BLM leases, which are Wolverine-controlled leases, as you will see on the attached diagram and the figure in the attached APD.

If you have any questions, please call.

Sincerely,

Edward A. Higuera

Manager-Development

Encl.

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DIV. OF OIL, GAS & MINING



# **WOLVERINE GAS AND OIL COMPANY**

of Utah, LLC

Energy Exploration in Partnership with the Environment

October 28, 2005

Diana Whitney Utah Division of Oil, Gas & Mining 1594 W. N. Temple, Suite 1210 Salt Lake City, UT 84114-5801

RE:

Application for Permit to Drill - Wolverine Gas & Oil Company of Utah, LLC

Wolverine Federal Arapien Valley #24-1

Surface Location: 2358' FNL, 696' FWL, SW/4 NW/4
Target Location: 792' FNL, 1,68' FWL, NE/4 NW/4
Section 24, T20S, R1E, SLB&M, Sanpete Co., Utah

Dear Ms. Whitney:

Attached please find a replacement APD cover form for the above referenced well, which replaces the cover page submitted earlier. The first form was not as legible as it should have been. Please substitute this new form for the one sent previously.

We apologize for any inconvenience this may have caused you.

Sincerely,

Edward A. Higuera

Manager – Development

Enclosure

RECEIVED NOV 0 3 2005

DIV. OF OIL, GAS & MINING



Form 3160-3 (February 2005)

UNITED STATES			Expired	March 51, 20	307
DEPARTMENT OF THE I BUREAU OF LAND MAN			5. Lease Serial No. <b>UTU-80907</b>		
APPLICATION FOR PERMIT TO I			6. If Indian, Allotee or Tribe Name N/A		
la. Type of work: ✓ DRILL REENTE	Type of work: ✓ DRILL REENTER				me and No. t
lb. Type of Well: ✓ Oil Well Gas Well Other	Single Zone Multip	ole Zone	8. Lease Name and Wolverine Fe		n Valley 24.1
2. Name of Operator	A		9. API Well No.	ar iii apici	
Wolverine Gas & Oil Company of Utah			43-0		3003 D
	3b. Phone No. (include area code)		10. Field and Pool, or	Exploratory	У
Grand Rapids, MI 49503-2616	616-458-1150		Wildcat		
4. Location of Well (Report location clearly and in accordance with any	State requirements.*)		11. Sec., T. R. M. or E	3lk.and Sur	vey or Area
At surface 2358' FNL 696' FWL, SW/4 NW/4 At proposed prod. zone 792' FNL, 1,868' FWL, NE/4 NW/4			Section 24, T2	20S, R1E,	SLB&M
14. Distance in miles and direction from nearest town or post office*			12. County or Parish		13. State
4.79 miles southwest of Mayfield, Utah			Sanpete		UT
15. Distance from proposed* location to nearest	16. No. of acres in lease	17. Spacin	g Unit dedicated to this	well	
property or lease line, ft. (Also to nearest drig. unit line, if any)	560	40 acı	res		
18. Distance from proposed location*	19. Proposed Depth 20. BLM		M/BIA Bond No. on file		
to nearest well, drilling, completed, applied for, on this lease, ft.	11,500' (11,260' TVD)	BLM	M WY3329		
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 5,560' GR	22. Approximate date work will star 11/01/2005	rt*	23. Estimated duration 120 days		
			120 days	<del></del>	
M. C.1	24. Attachments				
The following, completed in accordance with the requirements of Onshore	e Oil and Gas Order No.1, must be at	tached to thi	is form:		
Well plat certified by a registered surveyor.     A Drilling Plan.	4. Bond to cover the Item 20 above).	ne operation	ns unless covered by an	existing be	ond on file (see
3. A Surface Use Plan (if the location is on National Forest System I		ation			
SUPO must be filed with the appropriate Rorest Service Office).			ormation and/or plans as	s may be re	quired by the
25. Signature	Name (Printed/Typed)			Date	
( Aule VIX	Edward A. Higuera			i	6/2005
Title Manager 1 Development		7/31/20			
Approved by (Fignature)	Name (Printed/Typed)			Date	
Dially IV	BRADLEY G. HILL		19	Dale -1	03-09
Title	IRONMENTAL SCIENTIS	1.111		•	
Application approval does not warrant or certify that the applicant holds	legal or equitable title to those right	ts in the sub	ject lease which would e	entitle the aj	pplicant to
conduct operations thereon.  Conditions of approval, if any are attached					

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. RECEIVED

\*(Instructions on page 2)

Surf 434500X 43230304 39.005768

-111.75 6996

BHL 434863x 43235034

NOV 0 3 2005

Federal Approval of this Action is Necessary DIV. OF OIL, GAS & MINING

39.060054 -111.752846

CONFIDENTIAL

## Section 24, T.20 S., R.1 E., S.L.B. & M. FOUND 1996 B.L.M. FOUND 1996 B.L.M. FOUND 1996 B.L.M. ALUM. CAP ALUM. CAP ALUM, CAP \$89'29'27"E \$89'27'03"E 2597.30 90\* 2597.94 WOLVERINE FEDERAL ARAPIEN VALLEY #24-1 UNGRADED GROUND = 5560.00 696' FWL \$89"11"09"E S89"11'09"E 2600.15 2566.68 FOUND 1996 B.L.M. ALUM. CAP FOUND 1996 B.L.M. ALUM. CAP FOUND 1996 B.L.M. FOUND 1996 B.L.M. ALUM. CAP FOUND 1996 B.L.M. ALUM, CAP ALUM. CAP BASIS OF BEARING \$88'54'35"E S88'52'18"E 2602.80 2801,20 BASIS OF BEARINGS BASIS OF BEARING USED WAS \$88'54'35"E BETWEEN THE SOUTHWEST CORNER AND THE SOUTH QUARTER CORNER OF SECTION 24, 1.20 S., R.1 E., S.L.B. & M. LATITUDE = 39'03'21.1221" (39.05586725) NAD 83 LONGITUDE = -111'45'27.4195" (-111.75761653) NAD 83

#### PROJECT

## Wolverine Gas & Oil Company of Utah, LLC.

WELL LOCATION, LOCATED AS SHOWN IN THE S.W. 1/4 OF THE N.W. 1/4 OF SECTION 24, T.20 S., R.1 E., S.L.B. & M. SANPETE COUNTY, UTAH

#### **LEGEND**

= SECTION CORNERS LOCATED

- QUARTER SECTION CORNERS LOCATED

PROPOSED WELL HEAD

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT THE WOLVERINE FEDERAL ARAPIEN VALLEY #24-1 LOCATION. LOCATED IN THE S.W. 1/4 OF THE N.W. 1/4 OF SECTION 24, T.20 S., R.1 E., S.L.B. & M., SANPETE COUNTY, UTAH.

#### BASIS OF ELEVATION

ELEVATION BASED ON THE 1988 REDMOND, UTAH U.S.G.S QUADRANGLE MAP



#### CERTIFICATE

THIS IS TO CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION, AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF AT ENDANGINE AND BELIEF.



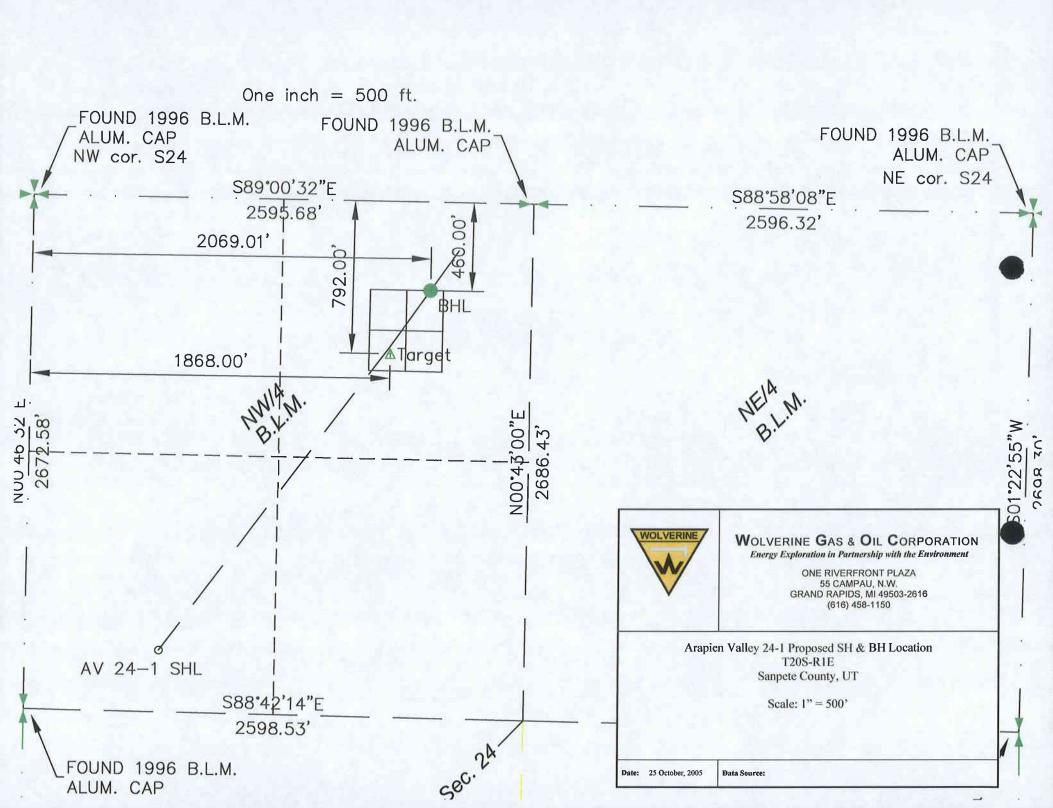


Jones & DeMilie Engineering 1838 South 100 West - Richfield, Utah 84701 Phone (435) 898-8298 Fex (435) 898-8288 www.joneeonddernills.com

Well Location Plat for

Wolverine Gas & Oil Company of Utah, L.L.C.

DESKONED	SURVEYED	CHEXCKED	DRAWN	PROJECT NO.	SHEET NO.
- 1	7. W.G.	T.R.G.	TG/BL	i	ĺ
DATE		DWC.NAME	BOALE	0506-124	1 1
07/27/05	I	WELLPLAT	1"=1000"		<b>!</b>



## WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

## **DRILLING PROGNOSIS**

Wolverine Federal Arapien Valley # 24-1 SW NW SEC 24-T20S-R01E Sanpete Co., Utah

## BRIEF DRILLING PLAN

Due to surface topography constraints, directionally drill a 11,500' MD (11,260' TVD) test of the Navajo formation on a day work contract basis from a drill pad located in the SW NW of Sec 24 T20S – R01E, Sampete Co, UT. Please refer to the directional drilling plan attached for detailed hole angle, trajectory and target information. Deviation is the primary drilling concern in this area. No abnormal pressure is anticipated. The projected surface and bottomhole locations are as follows:

Surface Location: 2358' fnl & 696' fwl of Sec 24 T20S – R01E BHL @ top of NVJO1 (9310' TVD) 792' fnl & 1868' fwl of Sec 24 T20S – R01E

30" conductor casing will be cemented to surface at approximately 150 ft BGL. A 17-1/2" hole will be drilled vertically to 1000' and then deviated to 15 deg by 1700' MD (1700' TVD). A tangent section will be continued to 3500' MD (3430' TVD) at 15 deg at which time 13-3/8" surface csg will be set & cemented to surface. A 12-1/4" tangent section will be drilled below 13-3/8" csg to 8800' MD (8600' TVD). From 8800' MD to 9550' MD (9310' TVD) the hole angle will be dropped to vertical. Hole size may be reduced to 8-1/2" at about 8000' – 8500' depending upon hole conditions. The remainder of the well will then be drilled vertically to 11,500' (11260' TVD). The well will be logged and 7" casing will be set at TD for a completion attempt. Cement will be raised to approximately 8500' MD.

1

## **EMERGENCY NUMBERS - dial 911 or**

Sevier Valley Medical Center	(435)-896-8271
Medical Helicopter	(800)-453-0120
Sheriff Department	(435)-896-2600
Fire Department-Richfield, UT	(435)-896-5479
Emergency Medical Technician Service-Salina, UT	(435)-529-7300
Bureau of Land Management (Richfield):	(435)-896-1500
Bureau of Land Management (Salt Lake City)	(801) 539-4045
Utah Division of Oil, Gas and Mining (Salt Lake City):	(801)-538-5340

## **United States Bureau of Land Management**

Contact Al McKee (801) 539-4045 24 hrs prior to spudding

## **Utah Division of Oil, Gas and Mining**

Contact Carol Daniels (801) 538-5284, 24 hrs prior to spudding

## **GENERAL INFORMATION**

**OBJECTIVE:** Navajo @ 9550' MD or 9310' (TVD)

**ELEVATION:** 5550' GL (est)

5580' KB

PROJECTED TOTAL DEPTH:

11,500' MD; 11,250' TVD

**SURFACE LOCATION:** 

2358' FNL & 696' FWL; Sec 24-T20S-R01E

**COUNTY:** 

Sampete

STATE: Utah

**DIRECTIONS TO LOCATION:** 

(to be determined)

## **PROPOSED CASING PROGRAM:**

Hole Size	Casing Size	Wt./Ft.	Grade	Joint	Measured Depth
36"	30"	.375 wall		PE welded	150'
17-1/2"	13-3/8"	68#	J-55	BTC	0'-3500'
8-1/2"	7"	26#	HCP-110	LTC	0' -11,500'

Hole Size	Casing Size	Drift ID, in.	OD of Couplings	Annular Volume in OH, cf/ft	Annular Volume in Csg, cf/ft	Capacity of casing, cf/ft
36"	30"	Conductor		Pre-set		
17-1/2"	13-3/8"	12.259	14.375	.6946	1.0982	.8406
8-1/2	7"	6.151	7.656	.1268		.2148

## **GEOLOGIC FORMATIONS:**

Formation	Interval (TVD)	Interval (MD)	Lithology	Prod	Abnormal or H2S
Arapien	Surf – 8600'	Surf – 8800'	sh, siltstone,salt,evaporites	-	
TwinCreek	8600'- 9310'	8800'-9550'	Carbonates		
Navajo	9310'- 11050'	9550'-11250'	Sandstone w/ minor shale	X	
Chinle	11,050'	11250			
Total Depth	11,250'	11,500'			

## **CONSTRUCTION OF SURFACE LOCATION**

400'x 400' Pad 185' x 240' x 10' Reserve Pit with a 12 mil synthetic liner 96" diameter tin horn cellar, 10' deep. Flare pit a minimum of 100' from wellhead.

## **SURFACE HOLE: 0' to 3500'**

Directionally drill a 17-1/2" hole with a tricone bit, mud motor, MWD & BHA equipment to approximately 3500' using a salt saturated mud system (make hole to fit 13-3/8" casing). Loss circulation could be a problem in this interval and, if such occurs, begin pumping LCM pills and if necessary into the entire system as needed. Maintain hole angle and direction in keeping with the attached directional plan.

# PRESSURE CONTROL & SAFETY EQUIPMENT FOR SURFACE HOLE

## Bottom to Top (see attached 2M Diverter diagram)

20" 2M x 20" SOW flange

20" 2M x 20" 2M mud cross w/ (2) 7-1/16" 2M side outlets one outlet 7-1/16" HCR valve w/ 6" blooie line to mud separator & flare pit one outlet (blank)

20" 2M Annular Preventer

20" 2M flanged btm drilling nipple w/ fillup line

Upper kelly cock valves with handles available

Safety valves and subs to fit all drill string connections in use

Inside BOP or float sub available

### **Testing Procedure:**

Annular Preventer & HCR Valve

The annular preventer will be functionally operated once per week. All BOP drills will be recorded in the IADC driller's log.

Accumulator:

3

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have two (2) independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

## MUD PROGRAM FOR SURFACE HOLE

DEPTH	MUD WEIGHT	TYPE	VISC	FLUID LOSS	
0 -3500'	9.6 – 10.2	Salt mud	40-55	N/C	
Note: Sweep hole every 100 – 200 feet or as needed for hole cleaning. Maintain maximum					
flowrates for hole cleaning. Use salt gel and FlowZan polymer to maintain properties.					

## **CASING PROGRAM FOR SURFACE HOLE**

DEPTH	SIZE	LENGTH	WT	GRADE	THREAD	REMARKS
0 - 3500'	13-3/8"	3500'	68#	J-55	BT&C	

#### Casing Running Sequence:

guide shoe, 1 jt of 13-3/8" 68# J55 BT&C, Float collar, remainder of 13-3/8" 68# J55 BT&C csg to surface. Use centralizers as read thru build section. RU cement co., hold safety meeting, test lines, cement 13-3/8" casing using the cementing guide below. Displace with fresh water or mud.

## **CEMENTING PROGRAM FOR SURFACE HOLE**

Lead:	1100 sx hi-fill	Mixed at: Yield:	11.0 ppg 3.86 ft <sup>3</sup> /sx
Tail:	600 sx Premium Plus	Mixed at: Yield:	15.6 <b>ppg</b> 1.19 ft³/sx

<u>MUST CIRCULATE CEMENT TO SURFACE</u> If the cement does **not** circulate to surface contact the UDOGM office for further instructions and remedial actions. Be prepared to top out with premium cement.

#### **WOC A TOTAL OF 24 HOURS:**

Wait 4 hours with the hydrostatic pressure of the displacement fluid in place, then cut off conductor and weld on a 13-5/8" 5M x 13-3/8" SOW casing head w/ MBS spool configured to hang either 9-5/8" and/or 7" csg strings without nippling down BOPE. NU a 13-5/8" 5M double ram BOP w/ 5M annular and 5M choke manifold rigged to mud/gas separator, mud tanks and flare pit.

## PRODUCTION CASING HOLE: 3500' to 11,500'

Trip in the hole with a 12-1/4" bit, mud motor, MWD & BHA. Drill float, shoe and 20' of new hole. Perform a formation integrity test to 10.5 ppg mud weight equivalent. Directionally drill a 12-1/4" (reduce to 8-1/2" ~ 8000') hole to approximately 11,500' MD (11,250' TVD) using same salt mud system as above. Loss circulation, moving salt, gypsum and anhydrite stringers may be a problem in this interval. Maintain hole angle and azimuth in keeping with the attached directional plan. Production casing should be set into the top of the Chinle Formation.

# PRESSURE CONTROL AND SAFETY EQUIPMENT FOR PRODUCTION CASING STRING

## Bottom to Top (see attached 5M BOP diagram)

13-5/8" 5M x 13-3/8" SOW casing head w/ (2) 2-1/16" SSO's (for 9-5/8")

13-5/8" 5M x 13-5/8" 5M multi-bowl casing spool (for 7")

13-5/8" 5M x 13-5/8" spacer spool

13-5/8" 5M x 13-5/8" 5M mud cross with (2) side outlets:

one outlet 2-1/16" kill line

one outlet 2-1/16" choke line

13-5/8" 5M double ram BOP w/ 5" pipe rams top & CSO rams btm

13-5/8" 5M Annular Preventer

13-5/8" 5M rotating head

Connect BOP to choke manifold with pressure guage Upper kelly cock valves with handles available Safety valves and subs to fit all drill string connections in use Inside BOP or float sub available

#### **Testing Procedure:**

#### **Annular Preventer**

The annular preventer will be pressure tested to 1500 psi for a period of ten minutes or until provisions of the test are met, whichever is longer. At a minimum, the pressure test will be performed:

- 1) When the annular is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The annular preventer will be functionally operated once per week.

#### **Blowout Preventer**

5

The BOP, choke manifold and related equipment will be pressure tested to 4500 psi, or 70% of the internal yield of the casing. Pressure will be maintained for a period of at least ten minutes or until the requirements of the test are met, whichever is longer. At a minimum the pressure test will be performed:

- 1) When the BOP is initially installed
- 2) Whenever any seal subject to test pressure is broken
- 3) Following related repairs and at 30 day intervals

The pipe and blind rams will be activated each trip, but not more than once each day. All BOP drills will be recorded in the IADC driller's log.

#### Accumulator:

The accumulator will have sufficient capacity to open the hydraulically controlled gate valve (if so equipped), close all rams plus the annular preventer, and retain a minimum of 200 psig above pre-charge on the closing manifold without the use of the closing unit pumps. The reservoir capacity will be double the accumulator capacity, and the fluid level will be maintained at the manufacturer's recommendations. The accumulator shall have two (2) independent power sources to close the preventers. Nitrogen bottles may be one of the independent power sources and, if so, shall maintain a charge equal to the manufacturer's specifications.

The accumulator pre-charge pressure test will be conducted prior to connecting the closing unit to the BOP stack and at least once every six months thereafter. The accumulator pressure will be corrected if the measured pre-charge pressure is found to be above or below the maximum or minimum limits specified in Onshore Oil & Gas Order Number 2 (only nitrogen gas may be used to pre-charge).

## Choke Manifold Equipment, Valves and Remote Controls

All choke lines will be straight lines unless turns use tee blocks or are targeted with running tees, and will be anchored to prevent whip and vibration

A valve will be installed in the closing line as close as possible to the annular preventer to act as a locking device. This valve will be maintained in the open position and will be closed only when the power source for the accumulator is inoperative.

Remote controls shall be readily accessible to the driller. Remote controls will be capable of both opening and closing all preventers. Master controls will be at the accumulator and will be capable of opening and closing all preventers and the choke line valve (if so equipped).

The choke manifold and BOP extension rods with hand wheels will be located outside the rig sub structure. The hydraulic BOP closing unit will be located at least twenty-five feet from the well head but readily accessible to the driller.

A flare line will be installed after the choke manifold, extending 100 feet from the center of the drill hole to a separate flare pit.

## **MUD PROGRAM FOR PRODUCTION CASING HOLE**

<u>DEPTH</u>	MUD WEIGHT	TYPE	VISC	FLUID LOSS
3500' – 11,500'	10.0 - 10.6	Salt Mud	36 - 50	N/C to 12cc

Maintain a salt mud system as salt and gypsum sections are drilled. If loss circulation becomes a problem use LCM sweeps to control seepage & clean hole.

## **EVALUATION PROGRAM FOR PRODUCTION HOLE**

Mudlogger: From 30" @ 150' to total depth.

At TD, circulate and condition hole clean for logs. Short trip and monitor well closely. TOH for logs. Run Induction tool as run #1 to determine hole conditions for logging. Adjust tool configurations depending on hole condition. Electric Logs:

Tool	Sic Csg to TD
SDL/DSN/GR	Yes
DLL/MSFL/SP/GR for brine system	Yes
EMI	Yes
NMR	Yes

DST: none planned

Cores: none planned

## **CASING PROGRAM FOR PRODUCTION HOLE**

DEPTH	SIZE	LENGTH	WT	GRADE THREAD	REMARKS	_
0' – TD'	7"	11,500°	26.0#	HCP-110 LT&C		

Rig up casing tools and run 7" production casing as follows:

Float shoe, 1 joint of 7" 26# HCP-110 LT&C casing, float collar then run balance of 7" 26# HCP-110 to surface.

## CEMENT PROGRAM FOR PRODUCTION CASING

**Lead:** 400 sx 50:50 POZ

Mixed at:

14.35 ppg

Yield:

 $1.21 \text{ ft}^3/\text{sx}$ 

Tail: none

TOC at  $\pm$  8500 ft in 8-1/2" hole. Calculate cement volume based on log caliper +/- 25%. Displace cement w/water. Hang 85-90% casing weight in slips, ND, cut off, install B-section and night cap. Clean pits and release rig.

#### SCHEDULE

Location preparation is presently scheduled to begin on or about September 15, 2005 Drilling operations are anticipated to begin on or about November 1, 2005



## WOLVERINE GAS & OIL CO. O Wolverine Federal Arapien Valley 24-1 Sanpete County, Utah



				S	ECTION DE	TAILS				
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
i	0.0	0.00	36.81	0.0	0.0	0.0	0.00	0.00	0.0	
2	1000.0	0.00	36.81	1000.0	0.0	0.0	0.00	0.00	0.0	
3	1723.2	14.46	36.81	1715.5	72.7	54.4	2.00	36.81	90.8	
4	8827.3	14.46	36.81	8594.5	1493.3	1117.6	0.00	0.00	1865.2	
5	9550.5	0.00	36.81	9310.0	1566.0	1172.0	2.00	180.00	1956.0	Navaio
6	11502.5	0.00	36.81	11262.0	1566.0	1172.0	0.00	36.81	1956.0	TD

SITE DETAILS

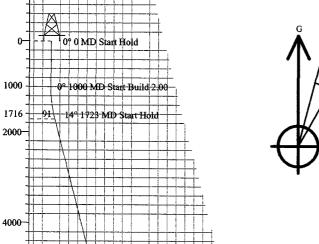
Wolverine Federal Arapien Valley 24-1 SW/NW Sec. 24, T20S, R1E, Sanpete County, Utah 2358' FNL & 696' FWL

Ground Level: 5560.0 Positional Uncertainty: 0.0 Convergence: -0.17

WELL DETAILS Name +N/-S +E/-W Northing Slot Easting Latitude Longitude Wolverine Federal Arapien Valley 24-1 0.0 0.0 2080248.50 477701.40 39°03'21.122N 111°45'27.420W N/A

Name

Navajo TD



True Vertical Depth [2000ft/in]

6000

Azimuths to Grid North True North: 0.17° Magnetic North: 12.68°

> Magnetic Field Strength: 52094nT Dip Angle: 64.76° Date: 8/2/2005 Model: igrf2005

Total Correction: 12.68°

TVD +N/-S +E/-W Shape 9310.0 1566.0 1172.0 Rectangle (400x400) Rectangle (400x400)

#### FIELD DETAILS

Utah (Central Zone) Central Utah USA

Geodetic System: US State Plane Coordinate System 1983 Ellipsoid: GRS 1980 Zone: Utah, Central Zone

Magnetic Model: igrf2005

System Datum: Mean Sea Level Local North: Grid North

TARGET DETAILS

#### CASING DETAILS

No. TVD

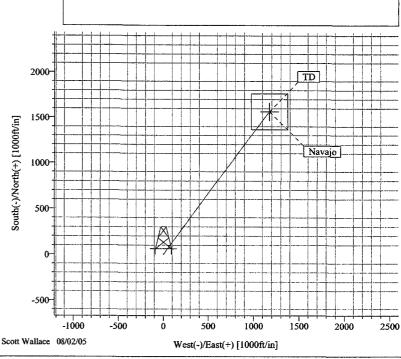
MD Name Size

No casings on this wellpath.

#### FORMATION TOP DETAILS

No. TVDPath MDPath Formation

No formation top details fall on the wellpath.





**Planning Report** 

Company: Wolverine Gas & Oil Co of Utah

Field: Site:

Utah (Central Zone) Wolverine Federal Arapien Valley 24-1

Well: Wellpath:

Wolverine Federal Arapien Vall

Date: 8/2/2005 Co-ordinate(NE) Reference: Well: Wolverine Federal Arapien Valley 2

Time: 11:21:26

SITE 5560.0

Page:

Vertical (TVD) Reference: Section (VS) Reference:

Well (0.00N,0.00E,36.81Azi)

Field:

Utah (Central Zone) Central Utah

USA

Map System:US State Plane Coordinate System 1983

Geo Datum: GRS 1980 Sys Datum: Mean Sea Level Map Zone:

Utah, Central Zone

Coordinate System: Geomagnetic Model: Well Centre igrf2005

Site:

Wolverine Federal Arapien Valley 24-1

SW/NW Sec. 24, T20S, R1E, Sanpete County, Utah

2358' FNL & 696' FWL

Site Position: From:

Lease Line

m Latitude: Longitude:

North Reference:

Grid

Position Uncertainty: Ground Level:

0.0 ft 5560.0 ft

Grid Convergence:

-0.17 deg

Well:

Wolverine Federal Arapien Vall

+N/-S

0.0 ft Northing: 0.0 ft Easting:

Northing:

Easting:

2080248.50 m 477701.40 m

Latitude: Longitude:

Slot Name:

39 3 21.122 N 111 45 27.420 W

+E/-W **Position Uncertainty:** 

Well Position:

Wellpath:

0.0 ft

**Drilled From:** 

Tie-on Depth:

Surface 0.0 ft

**Current Datum:** Magnetic Data:

SITE 8/2/2005

Height 5560.0 ft

**Above System Datum:** Declination: Mag Dip Angle:

Mean Sea Level 12.52 deg 64.76 deg

Field Strength: 52094 nT Vertical Section: Depth From (TVD)

ft 11262.0 +N/-S +E/-W ft ft 0.0 0.0

deg 36.81

Direction

8/2/2005

Plan: Plan #1 Principal: Yes

Date Composed: Version: Tied-to:

From Surface

Plan Section Information

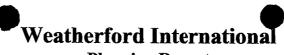
	MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
Н	0.0	0.00	36.81	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
	1000.0	0.00	36.81	1000.0	0.0	0.0	0.00	0.00	0.00	0.00	
1	1723.2	14.46	36.81	1715.5	72.7	54.4	2.00	2.00	0.00	36.81	
H	8827.3	14.46	36.81	8594.5	1493.3	1117.6	0.00	0.00	0.00	0.00	
	9550.5	0.00	36.81	9310.0	1566.0	1172.0	2.00	-2.00	0.00	180.00	Navaio
	11502.5	0.00	36.81	11262.0	1566.0	1172.0	0.00	0.00	0.00	36.81	TD

Section 1: Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.0	0.00	36.81	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00
0.001	0.00	36.81	100.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
200.0	0.00	36.81	200.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
300.0	0.00	36.81	300.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
400.0	0.00	36.81	400.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
0.00	0.00	36.81	500.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
600.0	0.00	36.81	600.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
700.0	0.00	36.81	700.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
0.008	0.00	36.81	0.008	0.0	0.0	0.0	0.00	0.00	0.00	36.81
900.0	0.00	36.81	900.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81
1000.0	0.00	36.81	1000.0	0.0	0.0	0.0	0.00	0.00	0.00	36.81

Section 2 · Start Build 2 00

Section	z. Ottal Da	iiu 2.00									
MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	TFO	
ft	deg	deg	ft	ft	ft	ft	deg/100f	t deg/100ff	deg/100ft	deg	
1100.0	2.00	36.81	1100.0	1.4	1.0	1.7	2.00	2.00	0.00	0.00	
1200.0	4.00	36.81	1199.8	5.6	4.2	7.0	2.00	2.00	0.00	0.00	



## **Planning Report**

Company: Wolverine Gas & Oil Co of Utah Field:

Utah (Central Zone)

Vertical (TVD) Reference:

Date: 8/2/2005 Time: 11:21:26 Page: Co-ordinate(NE) Reference: Well: Wolverine Federal Arapien Valley 2

Site: Well:

Wolverine Federal Arapien Valley 24-1 Wolverine Federal Arapien Vall Wellpath: 1

Section (VS) Reference:

SITE 5560.0 Well (0.00N,0.00E,36.81Azi)

Section 2	2 : Start Bui	ld 2.00								
MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100f	Build t deg/100f	Turn t deg/100ft	TFO deg
1300.0	6.00	36.81	1299.5	12.6	9.4	15.7	2.00	2.00	0.00	0.00
400.0	8.00	36.81	1398.7	22.3	16.7	27.9	2.00	2.00	0.00	0.00
1500.0	10.00	36.81	1497.5	34.8	26.1	43.5	2.00	2.00	0.00	0.00
1600.0	12.00	36.81	1595.6	50.1	37.5	62.6	2.00	2.00	0.00	0.00
1700.0	14.00	36.81	1693.1	68.1	51.0	85.1	2.00	2.00	0.00	0.00
1723.2	14.46	36.81	1715.5	72.7	54.4	90.8	2.00	2.00	0.00	0.00

Section	3:	Start Ho	d
Section	ာ :	Statt HO	

	3 : Start Ho									
MD	Incl	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	TFO
ft	deg	deg	ft	ft	ft	ft	deg/100f	t deg/1001	t deg/100ft	deg
1800.0	14.46	36.81	1789.9	88.1	65.9	110.0	0.00	0.00	0.00	0.00
1900.0	14.46	36.81	1886.7	108.1	80.9	135.0	0.00	0.00	0.00	0.00
2000.0	14.46	36.81	1983.6	128.0	95.8	159.9	0.00	0.00	0.00	0.00
2100.0	14.46	36.81	2080.4	148.0	110.8	184.9	0.00	0.00	0.00	0.00
2200.0	14.46	36.81	2177.2	168.0	125.8	209.9	0.00	0.00	0.00	0.00
2300.0	14.46	36.81	2274.1	188.0	140.7	234.9	0.00	0.00	0.00	0.00
2400.0	14.46	36.81	2370.9	208.0	155.7	259.8	0.00	0.00	0.00	0.00
2500.0	14.46	36.81	2467.7	228.0	170.7	284.8	0.00	0.00	0.00	0.00
2600.0	14.46	36.81	2564.6	248.0	185.6	309.8	0.00	0.00	0.00	0.00
2700.0	14.46	36.81	2661.4	268.0	200.6	334.8	0.00	0.00	0.00	0.00
2800.0	14.46	36.81	2758.2	288.0	215.6	359.8	0.00	0.00	0.00	0.00
2900.0	14.46	36.81	2855.0	308.0	230.5	384.7	0.00	0.00	0.00	0.00
3000.0	14.46	36.81	2951.9	328.0	245.5	409.7	0.00	0.00	0.00	
3100.0	14.46	36.81	3048.7	348.0	260.5	409.7 434.7	0.00			0.00
3200.0	14.46	36.81	3145.5	368.0	200.5 275.4	434.7 459.7		0.00	0.00	0.00
3300.0	14.46	36.81	3242.4	388.0	275.4 290.4		0.00	0.00	0.00	0.00
3400.0	14.46	36.81	3339.2			484.6	0.00	0.00	0.00	0.00
3500.0	14.46	36.81	3339.2 3436.0	408.0	305.4	509.6	0.00	0.00	0.00	0.00
3600.0	14.46		3430.0	428.0	320.3	534.6	0.00	0.00	0.00	0.00
3700.0		36.81	3532.9	448.0	335.3	559.6	0.00	0.00	0.00	0.00
	14.46	36.81	3629.7	468.0	350.3	584.5	0.00	0.00	0.00	0.00
3800.0	14.46	36.81	3726.5	488.0	365.2	609.5	0.00	0.00	0.00	0.00
3900.0	14.46	36.81	3823.3	508.0	380.2	634.5	0.00	0.00	0.00	0.00
4000.0	14.46	36.81	3920.2	528.0	395.1	659.5	0.00	0.00	0.00	0.00
4100.0	14.46	36.81	4017.0	548.0	410.1	684.5	0.00	0.00	0.00	0.00
4200.0	14.46	36.81	4113.8	568.0	425.1	709.4	0.00	0.00	0.00	0.00
4300.0	14.46	36.81	4210.7	588.0	440.0	734.4	0.00	0.00	0.00	0.00
4400.0	14.46	36.81	4307.5	608.0	455.0	759.4	0.00	0.00	0.00	0.00
4500.0	14.46	36.81	4404.3	628.0	470.0	784.4	0.00	0.00	0.00	0.00
4600.0	14.46	36.81	4501.2	648.0	484.9	809.3	0.00	0.00	0.00	0.00
4700.0	14.46	36.81	<b>459</b> 8.0	668.0	499.9	834.3	0.00	0.00	0.00	0.00
4800.0	14.46	36.81	4694.8	688.0	514.9	859.3	0.00	0.00	0.00	0.00
4900.0	14.46	36.81	4791.7	708.0	529.8	884.3	0.00	0.00	0.00	0.00
5000.0	14.46	36.81	4888.5	728.0	544.8	909.3	0.00	0.00	0.00	0.00
5100.0	14.46	36.81	4985.3	748.0	559.8	934.2	0.00	0.00	0.00	0.00
5200.0	14.46	36.81	5082.1	768.0	574.7	959.2	0.00	0.00	0.00	0.00
5300.0	14.46	36.81	5179.0	788.0	589.7	984.2	0.00	0.00	0.00	0.00
5400.0	14.46	36.81	5275.8	807.9	604.7	1009.2	0.00	0.00	0.00	0.00
5500.0	14.46	36.81	5372.6	827.9	619.6	1033.2	0.00	0.00	0.00	0.00
5600.0	14.46	36.81	5469.5	847.9	634.6	1059.1	0.00	0.00	0.00	0.00
5700.0	14.46	36.81	5566.3	867.9	649.6	1084.1	0.00	0.00	0.00	0.00
5800.0	14.46	36.81	5663.1	887.9	664.5	1109.1	0.00	0.00	0.00	0.00
5900.0	14.46	36.81	5760.0	907.9	679.5	1134.0	0.00		0.00	0.00
6000.0	14.46	36.81	5856.8	927.9	694.5	1154.0		0.00		
6100.0	14.46	36.81	5953.6	927.9 947.9			0.00	0.00	0.00	0.00
6200.0	14.46	36.81			709.4	1184.0	0.00	0.00	0.00	0.00
6300.0	14.46		6050.4	967.9	724.4	1209.0	0.00	0.00	0.00	0.00
		36.81	6147.3	987.9	739.4	1234.0	0.00	0.00	0.00	0.00
6400.0	14.46	36.81	6244.1	1007.9	754.3	1258.9	0.00	0.00	0.00	0.00
6500.0	14.46	36.81	6340.9	1027.9	769.3	1283.9	0.00	0.00	0.00	0.00
6600.0	14.46	36.81	6437.8	1047.9	784.3	1308.9	0.00	0.00	0.00	0.00
6700.0	14.46	36.81	6534.6	1067.9	799.2	1333.9	0.00	0.00	0.00	0.00
6800.0	14.46	36.81	6631.4	1087.9	814.2	1358.8	0.00	0.00	0.00	0.00
6900.0	14.46	36.81	6728.3	1107.9	829.2	1383.8	0.00	0.00	0.00	0.00
7000.0	14.46	36.81	6825.1	1127.9	844.1	1408.8	0.00	0.00	0.00	0.00



Wolverine Gas & Oil Co of Utah Сомрану: Field: Utah (Central Zone)

Wolverine Federal Arapien Valley 24-1 Site:

Well: Wolverine Federal Arapien Vall

Wellpath: 1

Date: 8/2/2005 Time: 11:21:26 Page: Co-ordinate(NE) Reference: Well: Wolverine Federal Arapien Valley 2

Vertical (TVD) Reference: SITE 5560.0

Section (VS) Reference:

Well (0.00N,0.00E,36.81Azi)

Plan:

Plan #1

Section	3:	Start	Hold
---------	----	-------	------

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+Æ/-W ft	✓ VS ft	DLS deg/100fl	Build deg/100f	Turn t deg/100ft	TFO deg	
7100.0	14.46	36.81	6921.9	1147.9	859.1	1433.8	0.00	0.00	0.00	0.00	
7200.0	14.46	36.81	7018.8	1167.9	874.1	1458.8	0.00	0.00	0.00	0.00	
7300.0	14.46	36.81	7115.6	1187.9	889.0	1483.7	0.00	0.00	0.00	0.00	
7400.0	14.46	36.81	7212.4	1207.9	904.0	1508.7	0.00	0.00	0.00	0.00	ĺ
7500.0	14.46	36.81	7309.2	1227.9	919.0	1533.7	0.00	0.00	0.00	0.00	
7600.0	14.46	36.81	7406.1	1247.9	933.9	1558.7	0.00	0.00	0.00	0.00	
7700.0	14.46	36.81	7502.9	1267.9	948.9	1583.6	0.00	0.00	0.00	0.00	
7800.0	14.46	36.81	7599.7	1287.9	963.9	1608.6	0.00	0.00	0.00	0.00	
7900.0	14.46	36,81	7696.6	1307.9	978.8	1633.6	0.00	0.00	0.00	0.00	
8000.0	14.46	36.81	7793.4	1327.9	993.8	1658.6	0.00	0.00	0.00	0.00	Ì
8100.0	14.46	36.81	7890.2	1347.9	1008.8	1683.5	0.00	0.00	0.00	0.00	ļ
8200.0	14.46	36.81	7987.1	1367.9	1023.7	1708.5	0.00	0.00	0.00	0.00	
8300.0	14.46	36.81	8083.9	1387.9	1038.7	1733.5	0.00	0.00	0.00	0.00	
8400.0	14.46	36.81	8180.7	1407.9	1053.6	1758.5	0.00	0.00	0.00	0.00	
8500.0	14.46	36.81	8277.6	1427.9	1068.6	1783.5	0.00	0.00	0.00	0.00	
8600.0	14.46	36.81	8374.4	1447.9	1083.6	1808.4	0.00	0.00	0.00	0.00	
8700.0	14.46	36.81	8471.2	1467.9	1098.5	1833.4	0.00	0.00	0.00	0.00	
0.0088	14.46	36.81	8568.0	1487.8	1113.5	1858.4	0.00	0.00	0.00	0.00	
8827.3	14.46	36.81	8594.5	1493.3	1117.6	1865.2	0.00	0.00	0.00	0.00	

Section 4: Start Drop -2.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.00	13.01	36.81	8665.1	1507.1	1127.9	1882.5	2.00	-2.00	0.00	-180.00
0.000	11.01	36.81	8762.9	1523.8	1140.4	1903.3	2.00	-2.00	0.00	180.00
9100.0	9.01	36.81	8861.4	1537.7	1150.8	1920.7	2.00	-2.00	0.00	180.00
9200.0	7.01	36.81	8960.4	1548.9	1159.2	1934.6	2.00	-2.00	0.00	-180.00
9300.0	5.01	36.81	9059.8	1557.2	1165.4	1945.1	2.00	-2.00	0.00	180.00
9400.0	3.01	36.81	9159.6	1562.8	1169.6	1952.0	2.00	-2.00	0.00	-180.00
9500.0	1.01	36.81	9259.5	1565.6	1171.7	1955.6	2.00	-2.00	0.00	180.00
9550.5	0.00	36.81	9310.0	1566.0	1172.0	1956.0	2.00	-2.00	0.00	-180.00

Section 5: Start Hold

MID ft	Inci deg	Azim deg	TVD ft	+N/-S ft	+ <b>E/-W</b> ft	VS ft	DLS deg/100f	Build t deg/100f	Turn deg/100ft	TFO deg
9600.0	0.00	36.81	9359.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
9700.0	0.00	36.81	9459.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
9800.0	0.00	36.81	9559.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
9900.0	0.00	36.81	9659.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10000.0	0.00	36.81	9759.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10100.0	0.00	36.81	9859.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10200.0	0.00	36.81	9959.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10300.0	0.00	36.81	10059.5	1566.0	1172,0	1956.0	0.00	0.00	0.00	36.81
10400.0	0.00	36.81	10159.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10500.0	0.00	36.81	10259.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10600.0	0.00	36.81	10359.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10700.0	0.00	36.81	10459.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10800.0	0.00	36.81	10559.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
10900.0	0.00	36.81	10659.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
11000.0	0.00	36.81	10759.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
11100.0	0.00	36.81	10859.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
11200.0	0.00	36.81	10959.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
11300.0	0.00	36.81	11059.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
11400.0	0.00	36.81	11159.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81
11502.5	0.00	36.81	11262.0	1566.0	1172.0	1956.0	0.00	0.00	0.00	36.81



Wolverine Gas & Oil Co of Utah Utah (Central Zone)

Company: Field: Site:

Wolverine Federal Árapien Valley 24-1

Well: Wolverine Federal Arapien Vall

Wellpath: 1

Date: 8/2/2005 Time: 11:21:26 Page:
Co-ordinate(NE) Reference: Well: Wolverine Federal Arapien Valley 2
Vertical (TVD) Reference: SITE 5560.0
Section (VS) Reference: Well (0.00N,0.00E,36.81Azi)

Plan:

Plan #1

wharn:	·				Pla	#A +		Plan #1		
rvey										
MD ft	inci deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.0	0.00	36.81	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	36.81	100.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
200.0	0.00	36.81	200.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
300.0	0.00	36.81	300.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
400.0	0.00	36.81	400.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
500 O	0.00	20.04	E00.0	0.0						
500.0 600.0	0.00	36.81 36.81	500.0 600.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
700.0	0.00	36.81	700.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
800.0	0.00	36.81	800.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
900.0	0.00	36.81	900.0	0.0 0.0	0.0 0.0	0.0 0.0	0.00 0.00	0.00	0.00	MWD MWD
						0.0	0.00	0.00	0.00	WWVD
1000.0	0.00	36.81	1000.0	0.0	0.0	0.0	0.00	0.00	0.00	MWD
1100.0	2.00	36.81	1100.0	1.4	1.0	1.7	2.00	2.00	0.00	MWD
200.0	4.00	36.81	1199.8	5.6	4.2	7.0	2.00	2.00	0.00	MWD
300.0	6.00	36.81	1299.5	12.6	9.4	15.7	2.00	2.00	0.00	MWD
1400.0	8.00	36.81	1398.7	22.3	16.7	27.9	2.00	2.00	0.00	MWD
500.0	10.00	36.81	1497.5	34.8	26.1	43.5	2.00	2.00	0.00	MWD
600.0	12.00	36.81	1595.6	50.1	37.5	62.6	2.00	2.00	0.00	MWD
700.0	14.00	36.81	1693.1	68.1	51.0	85.1	2.00	2.00	0.00	MWD
1723.2	14.46	36.81	1715.5	72.7	54.4	90.8	2.00	2.00	0.00	MWD
0.008	14.46	36.81	1789.9	88.1	65.9	110.0	0.00	0.00	0.00	MWD
900.0	14,46	26 04	1000 7		00.0					
0.000	14.46	36.81	1886.7	108.1	80.9	135.0	0.00	0.00	0.00	MWD
2100.0	14.46	36.81	1983.6	128.0	95.8	159.9	0.00	0.00	0.00	MWD
200.0	14.46 14.46	36.81	2080.4	148.0	110.8	184.9	0.00	0.00	0.00	MWD
200.0 300.0	14.46	36.81	2177.2	168.0	125.8	209.9	0.00	0.00	0.00	MWD
JJU.U	17.40	36.81	2274.1	188.0	140.7	234.9	0.00	0.00	0.00	MWD
400.0	14.46	36.81	2370.9	208.0	155.7	259.8	0.00	0.00	0.00	MWD
2500.0	14.46	36.81	2467.7	228.0	170.7	284.8	0.00	0.00	0.00	MWD
600.0	14.46	36.81	2564.6	248.0	185.6	309.8	0.00	0.00	0.00	MWD
2700.0	14.46	36.81	2661.4	268.0	200.6	334.8	0.00	0.00	0.00	MWD
0.008	14.46	36.81	2758.2	288.0	215.6	359.8	0.00	0.00	0.00	MWD
900.0	14.46	36.81	2855.0	308.0	230.5	384.7	0.00	0.00	0.00	MWD
0.000	14.46	36.81	2951.9	328.0	245.5	409.7	0.00	0.00	0.00	MWD
100.0	14.46	36.81	3048.7	348.0	260.5	434.7	0.00	0.00	0.00	MWD
200.0	14.46	36.81	3145.5	368.0	275.4	459.7	0.00	0.00	0.00	MWD
300.0	14.46	36.81	3242.4	388.0	290.4	484.6	0.00	0.00	0.00	MWD
400.0	14.40	20.04	0000	400.0	005.4	500.0				
500.0 500.0	14.46 14.46	36.81 36.81	3339.2	408.0	305.4	509.6	0.00	0.00	0.00	MWD
0.00 0.00	14.46 14.46	36.81	3436.0 3532.9	428.0	320.3	534.6	0.00	0.00	0.00	MWD
700.0	14.46	36.81	3532.9 3629.7	448.0 468.0	335.3	559.6	0.00	0.00	0.00	MWD
800.0	14.46	36.81	3629.7 3726.5	468.0 488.0	350.3 365.2	584.5 609.5	0.00 0.00	0.00 0.00	0.00 0.00	MWD MWD
					000.2	003.0	0.00	0.00	0.00	1414477
900.0	14.46	36.81	3823.3	508.0	380.2	634.5	0.00	0.00	0.00	MWD
0.000	14.46	36.81	3920.2	528.0	395.1	659.5	0.00	0.00	0.00	MWD
100.0	14.46	36.81	4017.0	548.0	410.1	684.5	0.00	0.00	0.00	MWD
200.0	14.46	36.81	4113.8	568.0	425.1	709.4	0.00	0.00	0.00	MWD
300.0	14.46	36.81	4210.7	588.0	440.0	734.4	0.00	0.00	0.00	MWD
0.00	14.46	36.81	4307.5	608.0	455.0	759.4	0.00	0.00	0.00	MANAZID
500.0	14.46	36.81	4404.3	628.0	455.0 470.0	759.4 784.4	0.00 0.00	0.00	0.00	MWD
600.0	14.46	36.81	4501.2	648.0	470.0 484.9	784.4 809.3		0.00	0.00	MWD
700.0	14.46	36.81	4501.2 4598.0	668.0	484.9 499.9		0.00	0.00	0.00	MWD
800.0	14.46	36.81	4596.0 4694.8	688.0	499.9 514.9	834.3 859.3	0.00 0.00	0.00	0.00 0.00	MWD MWD
900.0	14.46	36.81	4791.7	708.0	529.8	884.3	0.00	0.00	0.00	MWD
000.0 100.0	14.46	36.81	4888.5	728.0	544.8	909.3	0.00	0.00	0.00	MWD
200.0	14.46 14.46	36.81 36.81	4985.3 5082.1	748.0	559.8	934.2	0.00	0.00	0.00	MWD
			N (N) (1	768.0	574.7	959.2	0.00	0.00	0.00	MWD



**Planning Report** 

Company: Wolverine Gas & Oil Co of Utah Field: Utah (Central Zone)

Site: Weli: Wellpath: 1

Wolverine Federal Arapien Valley 24-1 Wolverine Federal Arapien Vall

Date: 8/2/2005 Time: 11:21:26 Page:
Co-ordinate(NE) Reference: Well: Wolverine Federal Arapien Valley 2
Vertical (TVD) Reference: SITE 5560.0
Well (0.00N,0.00E,36.81Azi)

Plan #1

MD ft 5300.0	Incl deg	Azim deg	TVD	+N/-S	1 17 ( 33)	210				
ft 5300.0			TVD	+N/S	1.80 ( 33/	3.70				
		ucy	ft	ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Ture deg/100ft	Tool/Comment
5400 O	14.46	36.81	5179.0	788.0	589.7	984.2	0.00	0.00	0.00	MWD
3400.0	14.46	36.81	5275.8	807.9	604.7	1009.2	0.00	0.00	0.00	MWD
5500.0	14.46	36.81	5372.6	827.9	619.6	1034.1	0.00	0.00	0.00	MWD
5600.0	14.46	36.81	5469.5	847.9	634.6	1059.1	0.00	0.00	0.00	MWD
5700.0	14.46	36.81	5566.3	867.9	649.6	1084.1	0.00	0.00	0.00	MWD
5800.0	14.46	36.81	5663.1	887.9	664.5	1109.1	0.00	0.00	0.00	MWD
5900.0	14.46	36.81	5760.0	907.9	679.5	1134.0	0.00	0.00	0.00	MWD
6000.0	14.46	36.81	5856.8	927.9	694.5	1159.0	0.00	0.00	0.00	MWD
6100.0	14.46	36.81	5953.6	947.9	709.4	1184.0	0.00	0.00	0.00	MWD
6200.0	14.46	36.81	6050.4	967.9	703.4 724.4	1209.0				
6300.0	14.46	36.81					0.00	0.00	0.00	MWD
0300.0	14.40	30.01	6147.3	987.9	739.4	1234.0	0.00	0.00	0.00	MWD
6400.0	14.46	36.81	6244.1	1007.9	754.3	1258.9	0.00	0.00	0.00	MWD
6500.0	14.46	36.81	6340.9	1027.9	769.3	1283.9	0.00	0.00	0.00	MWD
6600.0	14.46	36.81	6437.8	1047.9	784.3	1308.9	0.00	0.00	0.00	MWD
6700.0	14.46	36.81	6534.6	1067.9	799.2	1333.9	0.00	0.00	0.00	MWD
6800.0	14.46	36.81	6631.4	1087.9	814.2	1358.8	0.00	0.00	0.00	MWD
6900.0	14.46	36.81	6728.3	1107.9	829.2	1383.8	0.00	0.00	0.00	MWD
7000.0	14.46	36.81	6825.1	1127.9	844.1	1408.8	0.00	0.00	0.00	MWD
7100.0	14.46	36.81	6921.9	1147.9	859.1	1433.8	0.00	0.00	0.00	MWD
7200.0	14.46	36.81	7018.8	1167.9	874.1	1458.8	0.00	0.00	0.00	MWD
7300.0	14.46	36.81	7115.6	1187.9	889.0	1483.7	0.00	0.00	0.00	MWD
7400.0	14.46	36.81	7212.4	1207.9	904.0	1508.7	0.00	0.00	0.00	MWD
7500.0	14.46	36.81	7309.2	1227.9	919.0	1533.7	0.00			
7600.0	14.46	36.81	7406.1	1247.9	933.9	1558.7		0.00	0.00	MWD
7700.0	14.46	36.81	7502.9	1267.9			0.00	0.00	0.00	MWD
7800.0	14.46	36.81			948.9	1583.6	0.00	0.00	0.00	MWD
, 000.0	14.40	30.81	7599.7	1287.9	963.9	1608.6	0.00	0.00	0.00	MWD
7900.0	14.46	36.81	7696.6	1307.9	978.8	1633.6	0.00	0.00	0.00	MWD
8000.0	14.46	36.81	7793.4	1327.9	993.8	1658.6	0.00	0.00	0.00	MWD
8100.0	14.46	36.81	7890.2	1347.9	1008.8	1683.5	0.00	0.00	0.00	MWD
8200.0	14.46	36.81	7987.1	1367.9	1023.7	1708.5	0.00	0.00	0.00	MWD
8300.0	14.46	36.81	8083.9	1387.9	1038.7	1733.5	0.00	0.00	0.00	MWD
8400.0	14.46	36.81	8180.7	1407.9	1053.6	1758.5	0.00	0.00	0.00	MWD
8500.0	14.46	36.81	8277.6	1427.9	1068.6	1783.5	0.00	0.00	0.00	MWD
8600.0	14.46	36.81	8374.4	1447.9	1083.6	1808.4	0.00	0.00	0.00	MWD
8700.0	14.46	36.81	8471.2	1467.9	1098.5	1833.4	0.00	0.00	0.00	MWD
8800.0	14.46	36.81	8568.0	1487.8	1113.5	1858.4	0.00	0.00	0.00	MWD
8827.3	14.46	36.81	8594.5	1493.3	1117.6	1865.2	0.00	0.00	0.00	MWD
8900.0	13.01	36.81	8665.1	1507.1	1127.9	1882.5	2.00	-2.00	0.00	MWD
9000.0	11.01	36.81	8762.9	1523.8	1140.4	1903.3	2.00			
9100.0	9.01	36.81	8861.4	1537.7	1150.8			-2.00	0.00	MWD
9200.0	7.01	36.81	8960.4	1548.9	1150.8	1920.7 1934.6	2.00 2.00	-2.00 -2.00	0.00 0.00	MWD MWD
9300.0	5.01	26.04	0050.0							
		36.81	9059.8	1557.2	1165.4	1945.1	2.00	-2.00	0.00	MWD
9400.0	3.01	36.81	9159.6	1562.8	1169.6	1952.0	2.00	-2.00	0.00	MWD
9500.0	1.01	36.81	9259.5	1565.6	1171.7	1955.6	2.00	-2.00	0.00	MWD
9550.5	0.00	36.81	9310.0	1566.0	1172.0	1956.0	2.00	-2.00	0.00	Navajo
9600.0	0.00	36.81	9359.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
9700.0	0.00	36.81	9459.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
9800.0	0.00	36.81	9559.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
9900.0	0.00	36.81	9659.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10000.0	0.00	36.81	9759.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10100.0	0.00	36.81	9859.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10200.0	0.00	36.81	9959.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10300.0	0.00	36.81	10059.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD



**Planning Report** 

Company: Field: Wolverine Gas & Oil Co of Utah Utah (Central Zone)

Wolverine Federal Arapien Valley 24-1

Wolverine Federal Arapien Vall

Date: 8/2/2005 Time: 11:21:26 Page: Co-ordinate(NE) Reference: Well: Wolverine Federal Arapien Valley 2

Vertical (TVD) Reference: Section (VS) Reference:

SITE 5560.0 Well (0.00N,0.00E,36.81Azi) Plan #1

Wellpath: Survey

Well:

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100f	Build t deg/100f	Turn t deg/100ft	Tool/Comment
10400.0	0.00	36.81	10159.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10500.0	0.00	36.81	10259.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10600.0	0.00	36.81	10359.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10700.0	0.00	36.81	10459.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10800.0	0.00	36.81	10559.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
10900.0	0.00	36.81	10659.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
11000.0	0.00	36.81	10759.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
11100.0	0.00	36.81	10859.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
11200.0	0.00	36.81	10959.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
11300.0	0.00	36.81	11059.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
11400.0	0.00	36.81	11159.5	1566.0	1172.0	1956.0	0.00	0.00	0.00	MWD
11502.5	0.00	36.81	11262.0	1566.0	1172.0	1956.0	0.00	0.00	0.00	TD

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing m	Map Easting m		Latitude> Min Sec		Longit Min	
Navajo -Rectangle -Plan hit ta	e (400x400) arget		9310.0	1566.0	1172.0	2080725.82	478058.62	39	3 36.633 N	111	45 12.	619 V
TD	e (400x400)		11262.0	1566.0	1172.0	2080725.82	478058.62	39	3 36.633 N	111	<b>45</b> 12.	619 V

## PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by: EXACT Engineering, Inc Tulsa, OK (918) 599-9400

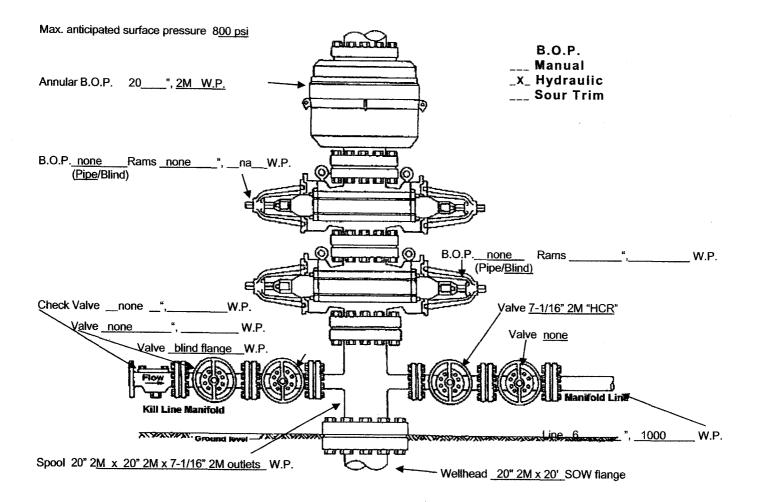
**2M Diverter Stack** — to be utilized while drilling holes for surface casing thru upper Arapien formation section

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal Arapien Valley 24-1



## PRESSURE CONTROL SYSTEM SCHEMATIC

Prepared by: EXACT Engineering, Inc Tulsa, OK (918) 599-9400

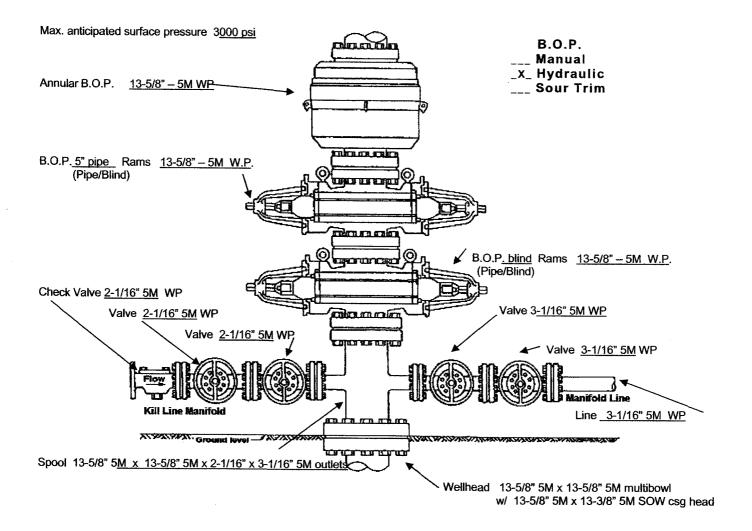
**5M BOP Stack** — to be utilized while drilling holes for protective and production casings thru lower Arapien, Twin Creek & Navajo intervals

Operator:

Wolverine Gas & Oil Co. of Utah, LLC

Well name and number

Wolverine Federal Arapien Valley 24-1



#### SURFACE USE PLAN

#### **CONDITIONS OF APPROVAL**

Attachment for Permit to Drill

Name of Operator:

Wolverine Gas & Oil Company of Utah, LLC

Address:

55 Campau NW

Grand Rapids, Michigan, 49503-2616

Well Location:

Wolverine Federal Arapien Valley 24-1

Surface Location: 2,358' FNL, 696' FWL, SW/4 NW/4, Target Location: 792' FNL, 1,868' FWL, NE/4 NW/4, Section 24, T20S, R1E, SLB&M, Sanpete County, Utah

Federal and fee (Gunnison Stake of the Church of Jesus Christ of Latter Day Saints) surface use is necessary prior to initiating construction on the respective portions of the Federal or fee lands.

The dirt contractor will be provided with an approved copy of the surface use plan of operations and fee surface use agreement before initiating construction.

A Federal onsite inspection was conducted on 7-16-05 with the following individuals present:

Charlie Irons – Western Land
Darin Robinson P.E. – Jones and DeMill
Michael Jackson – BLM Geologist
Gary Hall – BLM Asst. Field Manager
Brant Hallows – BLM Soils and Watershed
Reggie Swenson – BLM Minerals Technician
Don Hamilton - Buys & Associates, Inc.

### 1. Existing Roads:

- a. The proposed well site is located approximately 4.79 miles southwest of Mayfield, Utah.
- b. Directions to the proposed well site from Mayfield have been included on the location map at the end of Exhibit C.
- c. The use of roads under State and County Road Department maintenance are necessary to access the proposed well. However, an encroachment permit is not anticipated since no upgrades to the State or County Road system are proposed at this time.
- d. All existing roads will be maintained and kept in good repair during all phases of operation.
- e. Vehicle operators will obey posted speed restrictions and observe safe speeds commensurate with road and weather conditions.
- f. Improvements are planned for the federal and fee portions of the existing access road from the existing county maintained surface to the proposed wellsite. These improvements have been detailed within the road design plans that are being submitted for approval to the BLM. No disturbance to federal surface will occur until approval to upgrade the portions of existing road is in place.

g. An off-lease federal Right-of-Way is not anticipated for the access road corridor since it is located entirely on-lease.

## 2. Planned Access Roads:

- a. From the existing county maintained gravel surfaced Willow Creek Road an access is proposed trending west then north across federal and fee surface approximately 13,730' (2.60) miles to the proposed well site. The federal portion is approximately 3,540' (0.67 miles) in length and consists of entirely new disturbance. The fee portions of the access consists of new disturbance and two-track upgrade. The proposed access road crosses no significant drainages. A road design plan has been included within this package for the federal portion of the access road.
- b. The proposed access road will consist of a 20' travel surface. The ROW for the proposed road will accommodate cuts and fills where needed, as such, the total ROW width will vary as outlined within the road design plans but does average 52' in width.
- c. Fee (Gunnison Stake of the Church of Jesus Christ of Latter Day Saints) surface use approval is necessary for the road construction on fee land.
- d. An existing ditch/pipeline easement exists across the fee lands in the area of the proposed road. The easement is being avoided at this time through negotiations with the easement holder. The easement holder will be communicated with during construction and extreme caution will be exercised when working near the easement.
- e. A maximum grade of 7% will be maintained throughout the project with cuts and fills required to access the well as detailed in the road design plan.
- f. Turnouts are not anticipated since adequate site distance exists in all directions along the road length.
- g. No culverts or low water crossings are anticipated at this time. Adequate drainage structures will be incorporated into the entire access road.
- h. No surfacing material will come from SITLA or Federal lands.
- i. One cattleguard/gate combination is anticipated at this time and will be located at the existing fence crossing near the federal fee property boundary. A gate will be required within the fee surface use agreement as the proposed access road leaves the Willow Creek County Road and enters fee lands at the existing fence.
- j. Surface disturbance and vehicular travel will be limited to the approved location access road.
- k. All access roads and surface disturbing activities will conform to the standards outlined in the Bureau of Land Management and Forest Service publication: <u>Surface Operating Standards</u> for Oil and Gas Exploration and Development, (1989).
- The operator will be responsible for all maintenance of the access road including drainage structures.

## 3. Location of Existing Wells:

No existing wells are known within a one mile radius of the proposed well.

#### 4. <u>Location of Production Facilities:</u>

- a. The permanent production facility will be designed once the well is drilled and tested to determine if it is primarily oil or gas, and able to produce in paying quantities. We anticipate an oil reservoir, so our initial test facility will include a heater-treater and storage tanks for crude oil and produced water. A conceptual layout of a test facility is presented within Exhibit "D". Once the well has been tested, additional facilities may be needed.
- b. All permanent structures will be painted a flat, non-reflective Juniper Green to match the standard environmental colors. All facilities will be painted within six months of installation. Facilities required to comply with the Occupational Safety and Health Act (OSHA) may be excluded.
- c. A gas meter run will be constructed and located on lease within 500 feet of the wellhead. Meter runs will be housed and/or fenced. All gas production and measurement shall comply with the provisions of 43 CFR 3162. 7-3, Onshore Oil and Gas Order No. 5, and American Gas Association (AGA) Report No. 3.
- d. A tank battery will be constructed on this location; it will be surrounded by a dike of sufficient capacity to contain the storage capacity of the largest tank. All liquid hydrocarbons production and measurement shall conform to the provisions of 43 CFR 3162.7-3 and Onshore Oil and Gas Order No. 4.
- e. Any necessary pits will be properly fenced to prevent any wildlife and livestock entry.
- f. All access roads will be maintained as necessary to prevent erosion and accommodate year-round traffic. The road will be maintained in a safe useable condition.
- g. The site will require periodic maintenance to ensure that drainages are kept open and free of debris, ice, and snow, and that surfaces are properly treated to reduce erosion, fugitive dust, and impacts to adjacent areas.
- h. A pipeline is not being applied for with this application but may be necessary in the future when it will be applied for.

## 5. <u>Location and Type of Water Supply:</u>

- a. Wolverine intends to purchase water from the City of Salina. Jim Casto with the City of Salina has agreed to provide the water needed which will be municipal (culinary) water and tapped at the hydrant located just north of Pioneer Cemetery. The water will be acquired through a direct purchase agreement with Salina City based on quantity.
- b. No water well is proposed with this application.
- c. Should additional water sources be pursued they will be properly permitted through the State of Utah – Division of Water Rights. Additionally, the BLM will be notified of any changes in water supply.

## 6. <u>Source of Construction Material:</u>

- a. The use of materials on the project will conform to 43 CFR 3610.2-3.
- b. No construction materials will be removed from Federal or SITLA lands.
- c. If any gravel is used, it will be obtained from a state approved gravel pit.

## 7. <u>Methods of Handling Waste Disposal:</u>

- a. All wastes associated with this application will be contained and disposed of utilizing approved facilities.
- b. Drill cuttings will be contained and buried on site.
- c. The reserve pit will be located inboard of the location and near the north corner of the pad.
- d. The reserve pit will be constructed so as not to leak, break, or allow any discharge.
- e. The reserve pit will be lined with 12 mil minimum thickness plastic nylon reinforced liner material. The liner will overlay a felt liner pad only if rock is encountered during excavation. The pit liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc., that could puncture the liner will be disposed of in the pit. Pit walls will be sloped no greater than 2:1. A minimum 2-foot freeboard will be maintained in the pit at all times during the drilling and completion operation.
- f. The reserve pit has been located in cut material. Three sides of the reserve pit will be fenced before drilling starts. The fourth side will be fenced as soon as drilling is completed, and shall remain until the pit is dry. After the reserve pit has dried, all areas not needed for production will be rehabilitated.
- g. No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of the well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling, testing, or completion of the well.
- h. Trash will be contained in a trash cage and hauled away to an approved disposal site as necessary but no later than at the completion of drilling operations. The contents of the trash container will be hauled off periodically to an approved landfill.
- Produced fluids from the well will be produced into a test tank until such time as construction
  of production facilities is completed. Any spills of oil, gas, salt water or other produced
  fluids will be cleaned up and removed.
- j. After initial clean-up, a 400 bbl tank will be installed to contain produced waste water. This water will be transported from the tank to an approved disposal well for disposal.
- k. Any salts and/or chemicals, which are an integral part of the drilling system, will be disposed of in the same manner as the drilling fluid.
- l. Sanitary facilities will be on site at all times during operations. Sewage will be placed in a



portable chemical toilet and the toilet replaced periodically utilizing a licensed contractor to transport by truck the portable chemical toilet so that its contents can be delivered to the Richfield Wastewater Treatment Facility in accordance with state and county regulations.

#### 8. Ancillary Facilities:

a. Garbage Containers and Portable Toilets are the only ancillary facilities proposed in this application.

## 9. Well Site Layout: (See Exhibit B)

- a. The well will be properly identified in accordance with state regulations.
- b. Access to the well pad will be from the southwest.
- c. The pad and road designs are consistent with BLM specifications.
- d. A pre-construction meeting with responsible company representative, contractors, and the BLM will be conducted at the project site prior to commencement of surface-disturbing activities. The pad and road will be construction-staked prior to this meeting.
- e. The pad has been staked at its maximum size; however it will be constructed smaller if possible, depending upon rig availability. Should the layout change, this application will be amended and approved utilizing a sundry notice.
- f. All surface disturbing activities will be supervised by a qualified, responsible company representative who is aware of the terms and conditions of the APD and specifications in the approved plans.
- g. All cut and fill slopes will be such that stability can be maintained for the life of the activity.
- h. Diversion ditches will be constructed as shown around the well site and described during the onsite to prevent surface waters form entering the well site area.
- The site surface will be graded to drain away from the pit to avoid pit spillage during large storm events.
- j. The stockpiled topsoil (first 6 inches or maximum available) will be stored in a windrow on the uphill side of the location to prevent any possible contamination. All topsoil will be stockpiled for reclamation in such a way as to prevent soil loss and contamination.
- k. Pits will remain fenced until site cleanup.
- l. The blooie line will be located at least 100 feet from the well head.
- m. Water injection may be implemented if necessary to minimize the amount of fugitive dust.

#### 10. Plans for Restoration of the Surface:

- a. Site reclamation for a producing well will be accomplished for portions of the site not required for the continued operation of the well.
- b. The Operator will control noxious weeds along access road use authorizations, well sites, or other applicable facilities by spraying or mechanical removal. A list of noxious weeds may be obtained from the BLM or the appropriate County Extension Office. On BLM administered land, it is required that a Pesticide Use Proposal be submitted and approved prior to the application of herbicides, pesticides or possibly hazardous chemicals.
- c. Upon well completion, any hydrocarbons in the pit shall be removed in accordance with state regulations. Once the reserve pit is dry, the plastic nylon reinforced liner shall be torn and perforated before backfilling of the reserve pit. The reserve pit and that portion of the location not needed for production facilities/operations will be recontoured to the approximate natural contours.
- d. The cut and fill slopes and all other disturbed areas not needed for the production operation will be top soiled and re-vegetated. The stockpiled topsoil will be evenly distributed over the disturbed area.
- e. Prior to reseeding the site, all disturbed areas, including the access road, will be scarified and left with a rough surface. The site will then be seeded and/or planted as prescribed by the BLM.

#### 11. Surface and Mineral Ownership:

- Surface Ownership -- United States of America under the management of the BLM Richfield Field Office, 150 East 900 North, Richfield, Utah 84701; 435-896-1500.
- Mineral Ownership United States of America under the management of the BLM Richfield Field Office, 150 East 900 North, Richfield, Utah 84701; 435-896-1500.

#### 12. Other Information:

a. Mountain States Archaeology, LLC has completed a Class III archeological survey. A copy of the report will be submitted under separate cover to the appropriate agencies by Mountain States Archaeology, LLC.

#### b. Additional information:

- No drainage crossings that require additional State or Federal approval are being crossed.
- b. No raptor nests are known to exist within one mile of the proposed wellsite.
- c. A paleontological clearance is not required since suitable fossil bearing formations do not exist within the project area.
- d. A BLM sensitive plant species survey has been completed Buys & Associates, Inc. A copy of the report has been submitted under separate cover to the appropriate agencies by Buys & Associates, Inc.



## 13. Operator's Representative and Certification

Title	Name	Office Phone
Company Representative (Rich	field) Charlie Irons	1-435-896-1943
Company Representative (Gran	d Rapids) Ed Higuera	1-616-458-1150
Agent for Wolverine	Don Hamilton	1-435-719-2018

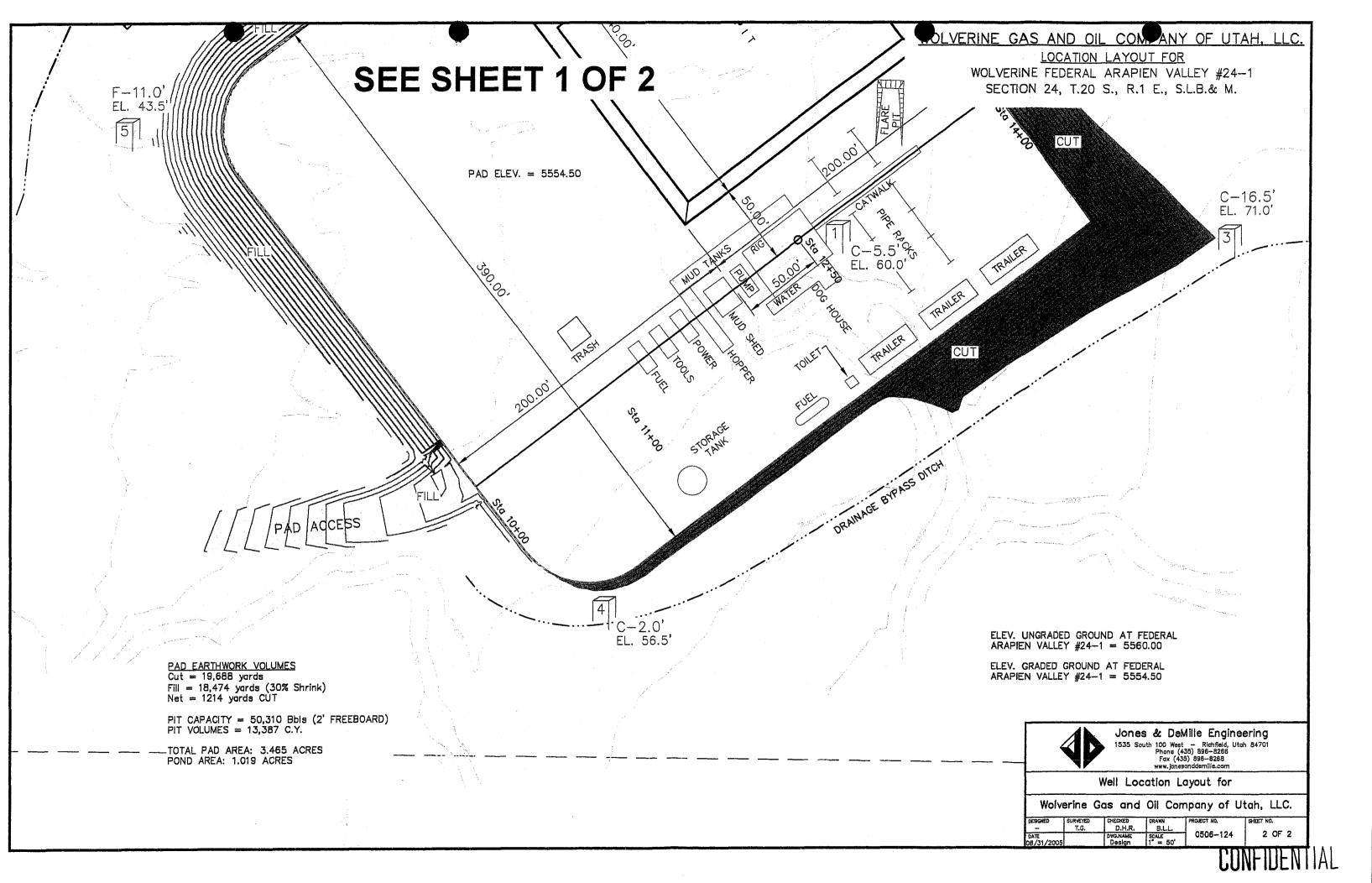
#### Certification:

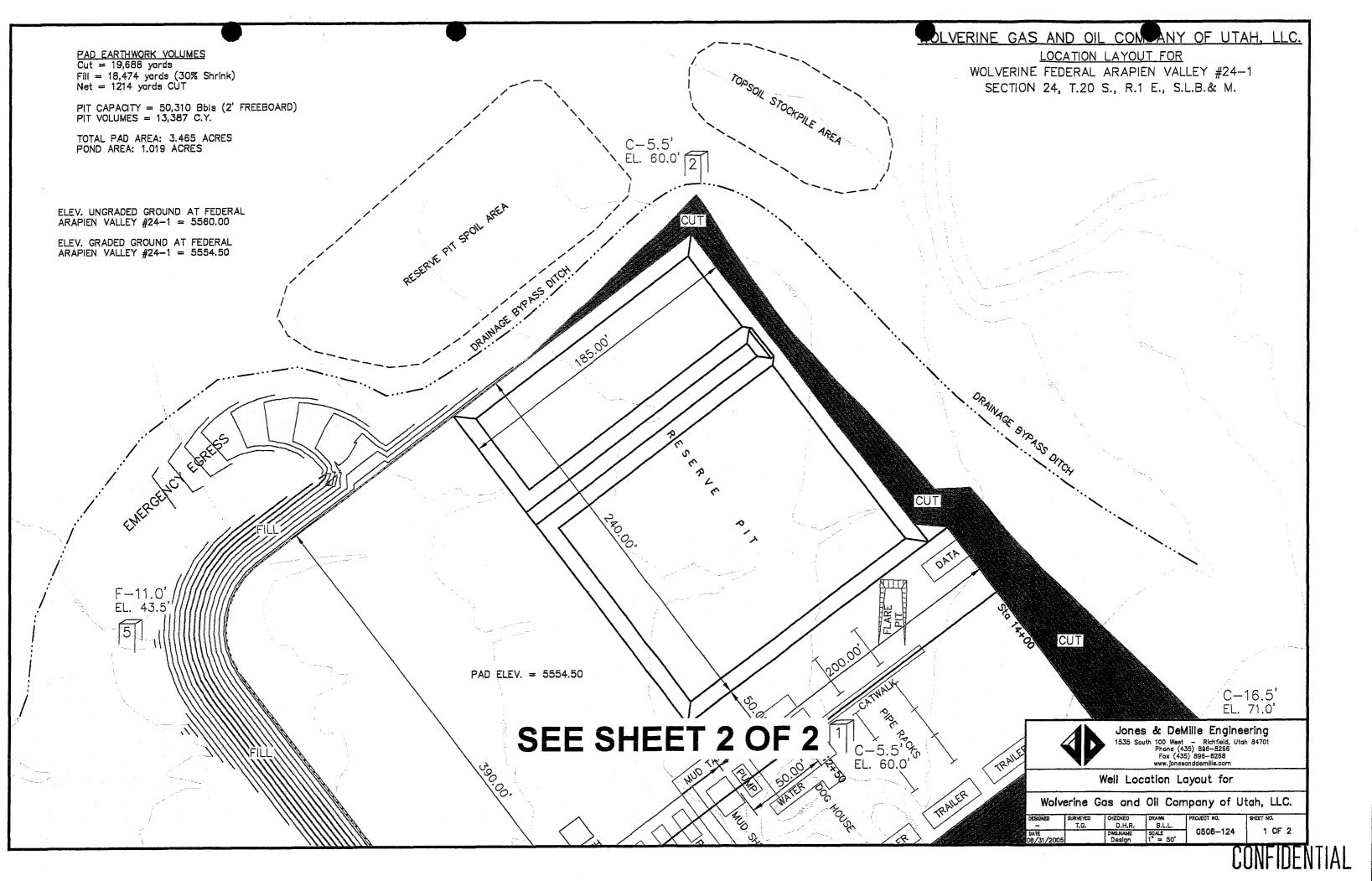
I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exists; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Wolverine Gas & Oil Company of Utah, LLC and its contractors and subcontractors in conformity with this APD package and the terms and conditions under which it is approved. I also certify responsibility for the operations conducted on that portion of the leased lands associated with this application, with bond coverage being provided under Wolverine's pending existing BLM bond. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Signature:

CONFIDENTIAL

Date: 9-16-05

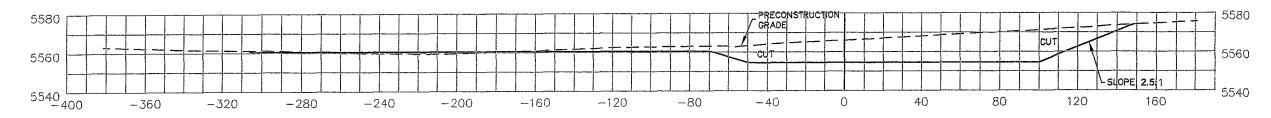




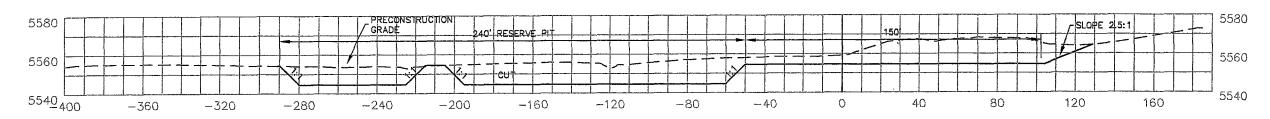
OLVERINE GAS AND OIL COMPANY OF UTAH, LLC.

TYPICAL CROSS SECTIONS FOR WOLVERINE FEDERAL ARAPIEN VALLEY #24-1 SECTION 24, T.20 S., R.1 E., S.L.B.& M.

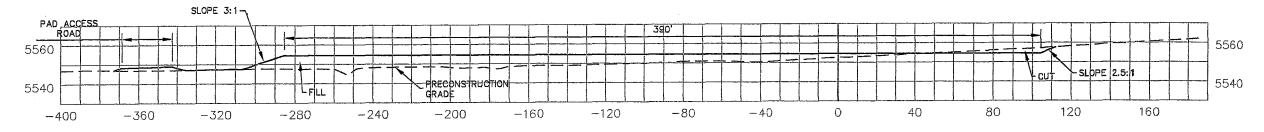
STA 14+00



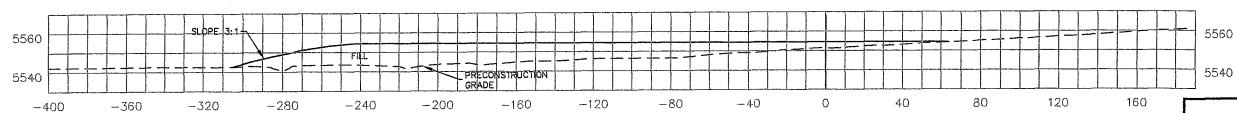
# STA 12+50



STA 11+00



STA 10+00

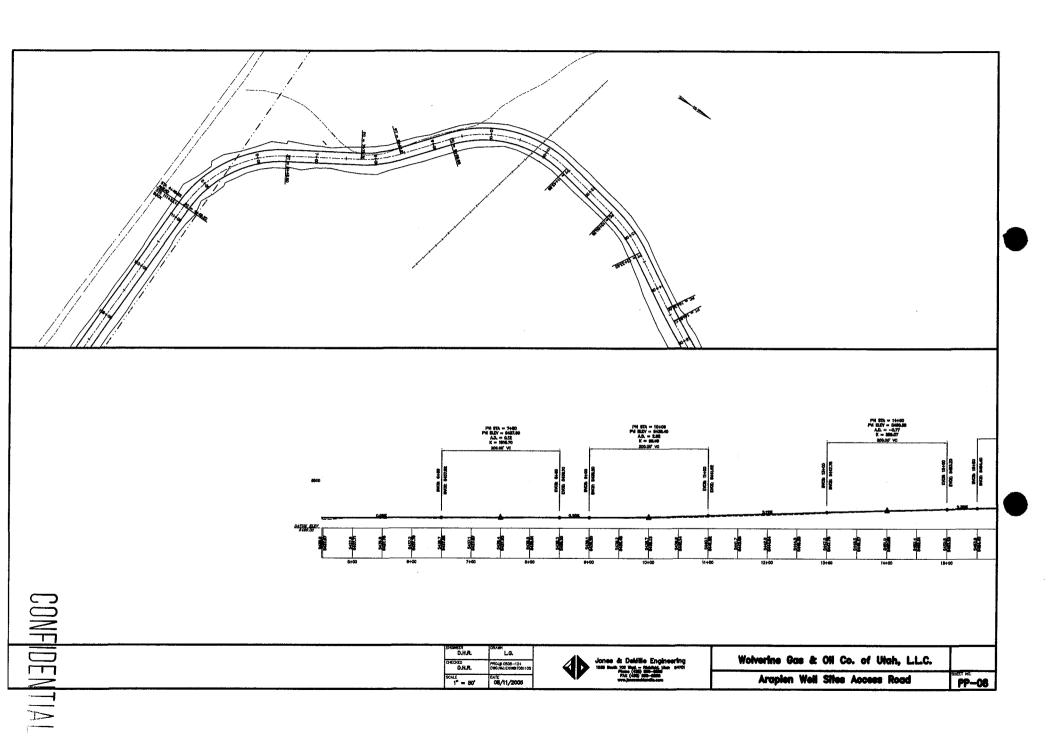


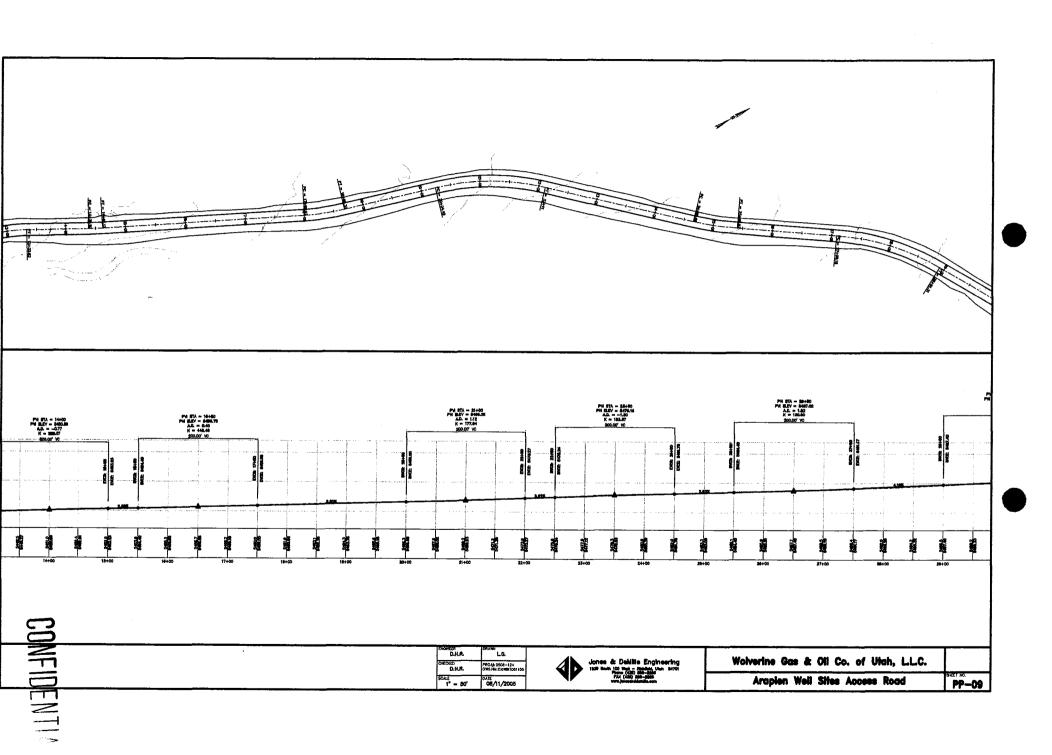
Jones & DeMille Engineering
1535 South 100 West — Richfield, Utah 84701
Phone (435) 896-8266
Fax (435) 898-8268
www.jonesanddemille.com

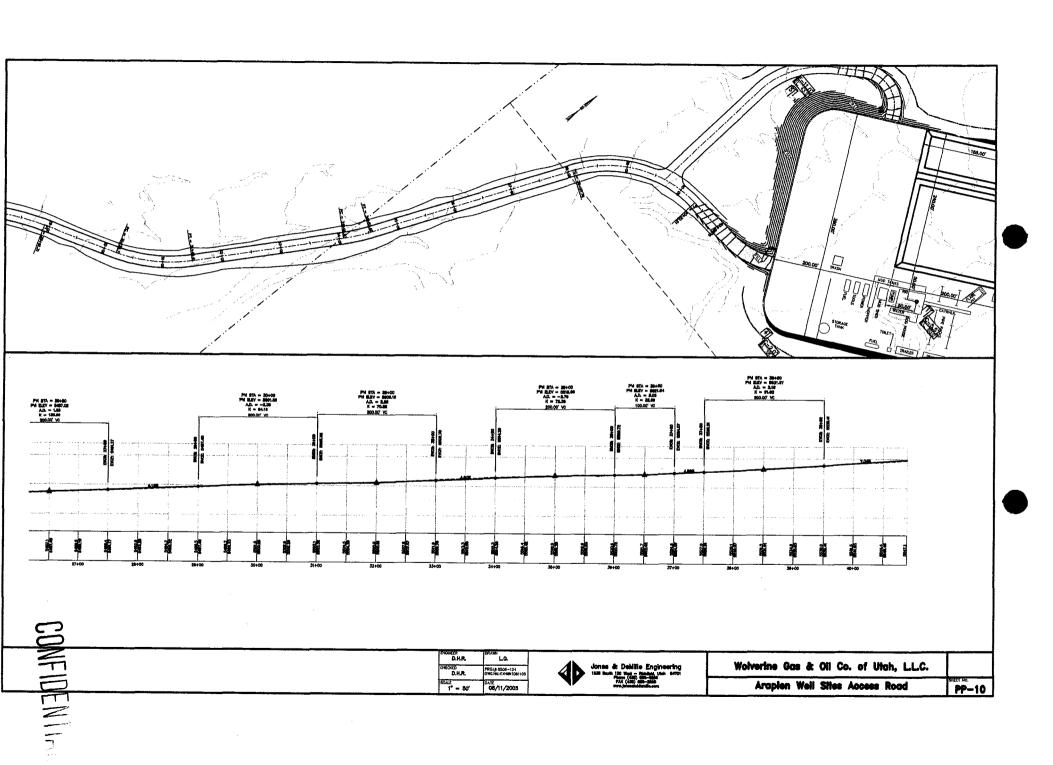
Typical Cross Sections for

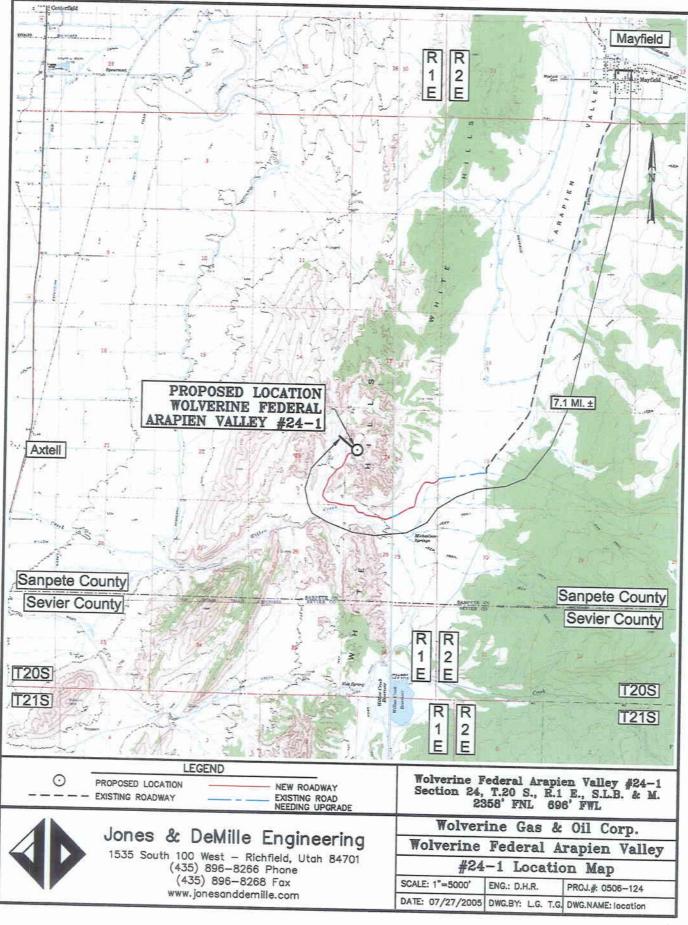
Wolverine Gas and Oil Company of Utah, LLC.

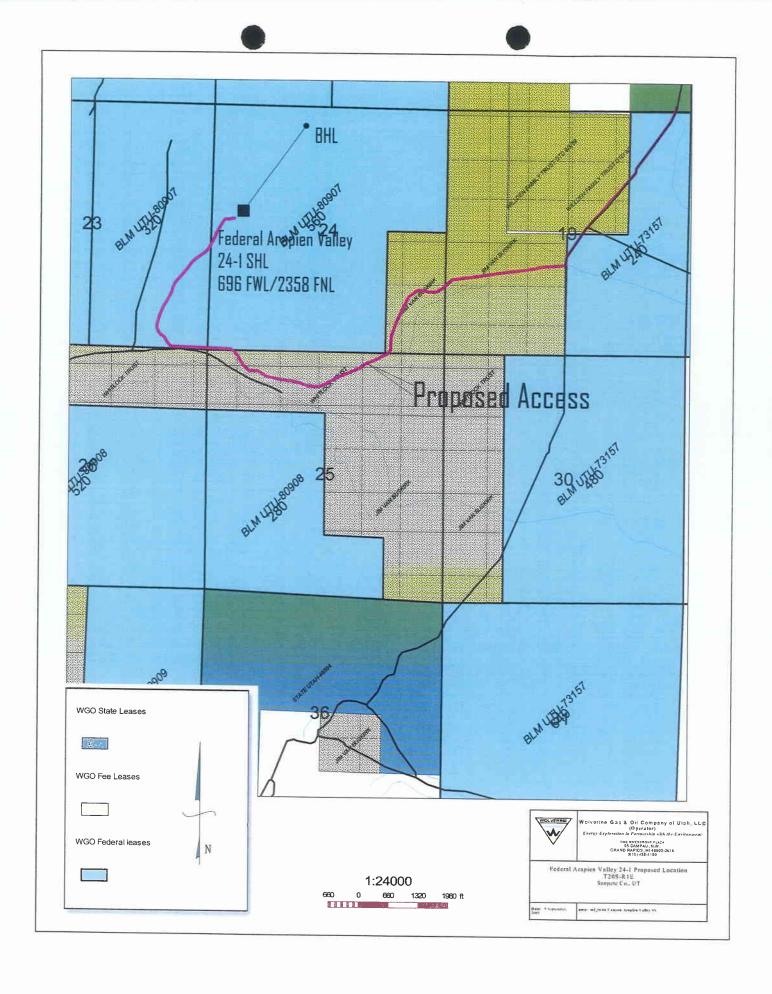
CHECKED D.H.R. 0506-124

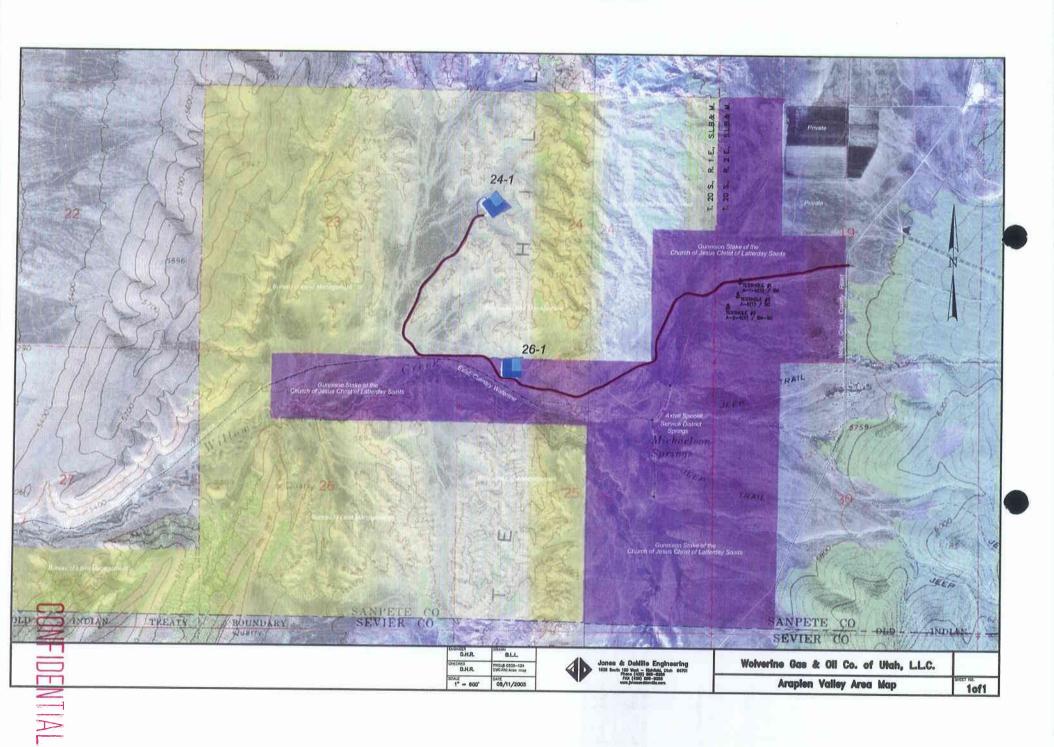


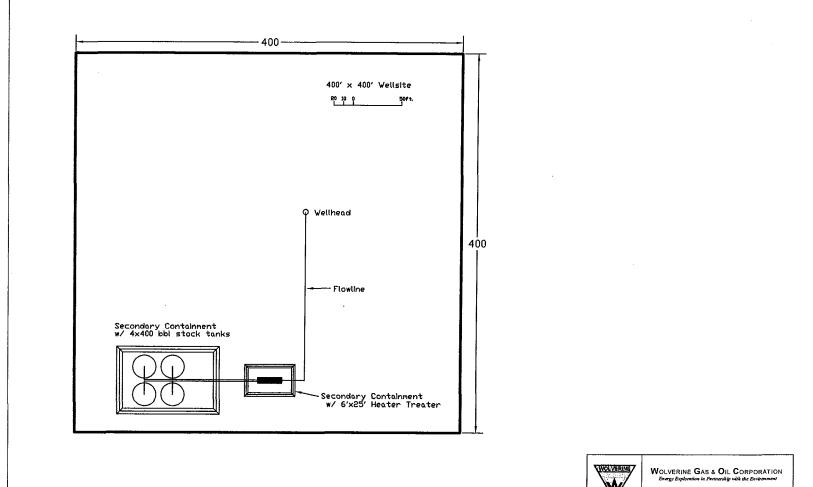














ONE RIVERFRONT PLAZA 55 CAMPAU, N.W. GRAND RAPIDS, MI 49503-2616 (616) 458-1150

General Test Facility Layout

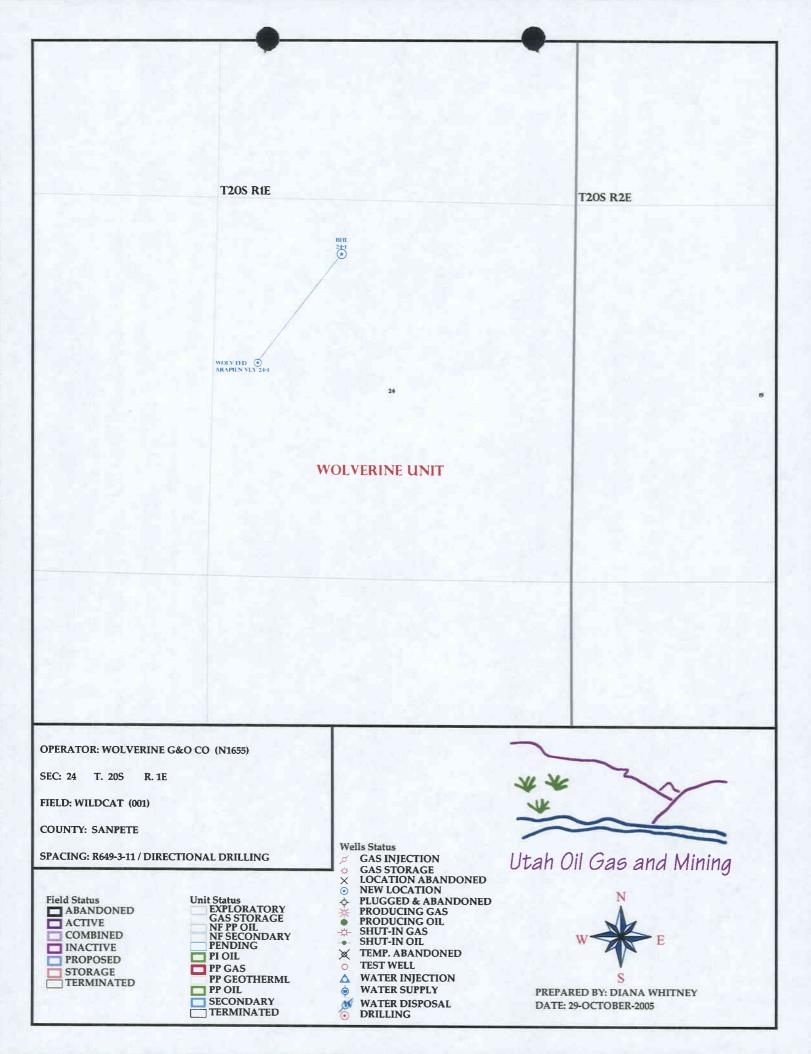
Date: 16 September, 2005 Data Source: facility template



#### WORKSHEET

#### APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 10/27/2005	API NO. ASSIGNED: 43-039-30030
WELL NAME: WOLV FED ARAPIEN VLY 24-1  OPERATOR: WOLVERINE GAS & OIL CO ( N1655 )  CONTACT: EDWARD HIGUERA	PHONE NUMBER: 616-458-1150
PROPOSED LOCATION:  SWNW 24 200S 010E  SURFACE: 2358 FNL 0696 FWL  BOTTOM: 0792 FNL 1868 FWL  SANPETE  WILDCAT ( 1 )  LEASE TYPE: 1 - Federal  LEASE NUMBER: UTU-80907  SURFACE OWNER: 1 - Federal  PROPOSED FORMATION: NAVA  COALBED METHANE WELL? NO	INSPECT LOCATN BY: / /  Tech Review Initials Date  Engineering  Geology  Surface  LATITUDE: 39.05577  LONGITUDE: -111.7570
Plat    Plat   Bond: Fed[1] Ind[] Sta[] Fee[]   (No. WY3329 )   Potash (Y/N)   Oil Shale 190-5 (B) or 190-3 or 190-13   Water Permit   (No. MUNICIPAL )   RDCC Review (Y/N)   (Date: )   Nh Fee Surf Agreement (Y/N)   Nh Intent to Commingle (Y/N)	LOCATION AND SITING: R649-2-3. Unit WOLVERINE R649-3-2. General     Siting: 460 From Qtr/Qtr & 920' Between Wells    R649-3-3. Exception Drilling Unit    Board Cause No:
STIPULATIONS: 1- feder of Approve 2- Spacen & Spacen	



# **United States Department of the Interior**

BUREAU OF LAND MANAGEMENT
Utah State Office
P.O. Box 45155
Salt Lake City, Utah 84145-0155

IN REPLY REFER TO: 3160 (UT-922)

October 28, 2005

Memorandum

To:

Field Office Manger, Richfield Field Office

From:

Michael Coulthard, Petroleum Engineer

Subject:

2005 Plan of Development Wolverine Unit Sanpete and

Sevier County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following well has a modified bottom hole location. The well is planned for calendar year 2005 within the Wolverine Unit, Sanpete County, Utah and was previously covered by the plan of development approved August 8, 2005.

API#

WELL NAME

LOCATION

(Proposed PZ Navajo)

43-039-30030 Arapien Valley 24-1 Sec 24 T20S R01E 2358 FNL 0696 FWL BHL Sec 24 T20S R01E 0792 FNL 1868 FWL

This office has no objection to permitting the well at this time.

/s/ Michael L. Coulthard

bcc: File - Wolverine Unit

Division of Oil Gas and Mining

Central Files Agr. Sec. Chron Fluid Chron



State of Utah

# Department of Natural Resources

MICHAEL R. STYLER Executive Director

# Division of Oil, Gas & Mining

JOHN R. BAZA Division Director JON M. HUNTSMAN, JR. Governor

GARY R. HERBERT Lieutenant Governor

November 3, 2005

Wolverine Gas & Oil Company of Utah, LLC 55 Campau, NW Grand Rapids, MI 49503-2616

Re:

Wolverine Federal Arapien Valley 24-1 Well, Surface Location 2358' FNL, 696' FWL, SW NW, Sec. 24, T. 20 South, R. 1 East, Bottom Location 792' FNL, 1868' FWL, NE NW, Sec. 24, T. 20 South, R. 1 East, Sanpete County, Utah

#### Gentlemen:

Pursuant to the provisions and requirements of Utah Code Ann.§ 40-6-1 et seq., Utah Administrative Code R649-3-1 et seq., and the attached Conditions of Approval, approval to drill the referenced well is granted.

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date. The API identification number assigned to this well is 43-039-30030.

Sincerely,

Gil Hunt

Associate Director

pab Enclosures

cc:

Sanpete County Assessor

Bureau of Land Management, Richfield District Office

Operator:	Wol	Wolverine Gas & Oil Company of Utah, LLC				
Well Name & Number	Wol	Wolverine Federal Arapien Valley 24-1				
API Number:	43-0	039-30030				
Lease:	UTU	UTU-80907				
Surface Location: SW NW	Sec. 24	T. 20 South	<b>R.</b> 1 East			
Bottom Location: NW NW	Sec. 24	T. 20 South	R. 1 East			

#### **Conditions of Approval**

#### 1. General

Compliance with the requirements of Utah Admin. R. 649-1 *et seq.*, the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

#### 2. Notification Requirements

Notify the Division within 24 hours of spudding the well.

• Contact Carol Daniels at (801) 538-5284.

Notify the Division prior to commencing operations to plug and abandon the well.

Contact Dan Jarvis at (801) 538-5338

#### 3. Reporting Requirements

All required reports, forms and submittals will be promptly filed with the Division, including but not limited to the Entity Action Form (Form 6), Report of Water Encountered During Drilling (Form 7), Weekly Progress Reports for drilling and completion operations, and Sundry Notices and Reports on Wells requesting approval of change of plans or other operational actions.

- 4. State approval of this well does not supersede the required federal approval, which must be obtained prior to drilling.
- 5. In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

Page 2 43-039-30030 November 3, 2005

6. This proposed well is located in an area for which drilling units (well spacing patterns) have not been established through an order of the Board of Oil, Gas and Mining (the "Board"). In order to avoid the possibility of waste or injury to correlative rights, the operator is requested, once the well has been drilled, completed, and has produced, to analyze geological and engineering data generated therefrom, as well as any similar data from surrounding areas if available. As soon as is practicable after completion of its analysis, and if the analysis suggests an area larger than the quarter-quarter section upon which the well is located is being drained, the operator is requested to seek an appropriate order from the Board establishing drilling and spacing units in conformance with such analysis by filing a Request for Agency Action with the Board.



# WOLVERINE GAS AND OIL COMPANY

of Utah, LLC

Energy Exploration in Partnership with the Environment

Fluid Mineral Group Bureau of Land Management Richfield Field Office 150 East 900 North Richfield, Utah 84701

Re:

Wolverine Federal Arapien Valley 24-1. 2331' FNL, 549' FWL, (SW/4 NW/4), Section 24, T. 20 South, R. 1 East, SLB&M. Sanpete County, Utah

RECEIVED MAY 0 8 2006

DIV. OF OIL, GAS & MINING

Dear Fluid Minerals Group:

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) respectfully submits the enclosed Sundry Notice and attachments in triplicate requesting changes to the approved drilling plan for the referenced well. The approved plan called for drilling a directional well to a total depth of 11,500 feet. We now request approval to drill a vertical well to a depth of 16,200 feet. An H<sub>2</sub>S Contingency Plan is included with this Sundry Notice because the targeted Kaibab Formation has potential to contain Hydrogen Sulfide gas.

The subject well will be drilled at a repositioned spot on a modified drilling pad. Alterations to the drilling pad are needed to accommodate a larger drilling rig and in consideration of wind direction and H<sub>2</sub>S potential. The revised drilling pad will disturb less area than the originally approved pad because it is designed to initially accommodate a single well rather multiple wells.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information included in this and previous correspondence relating to this well.

Thank you for your consideration of this request. Please feel free to contact me or Ellis Peterson of this office at 616-458-1150 if you have any questions or need additional information.

Sincerely.

Edward Higuera, Manager - Development

CONFIDENTIAL

cc: Utah Division of Oil, Gas and Mining Dawn Martin, Buys & Associates, Inc. Don Hamilton, Buys & Associates, Inc.

Form 3160-5

# **UNITED STATES**

	- Prod			(29)
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FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

(April 2004)		DEPARTMENT OF THE BUREAU OF LAND MAN			Expires: 1	o. 1004-0137 March 31, 2007
		NOTICES AND REI		LS	<ol> <li>Lease Serial No. UTU-80907</li> </ol>	
	Do not use t	his form for proposals t rell. Use Form 3160-3 (	o drill or to re-e	nter an	6. If Indian, Allottee NA	or Tribe Name
		IPLICATE- Other insti	ructions on rever	se side.	_	ement, Name and/or No.
1. Type of W. ✓	ell Oil Well [	Gas Well Other			Wolverine Fede 8. Well Name and N	
2. Name of Ope	erator Wolverine C	Sas and Oil Company of Utah,	LLC			Arapien Valley 24-1
3a. Address		ds, Michigan 49503-2616	3b. Phone No. (include 616-458-1150	area code)	43-039-30030	Evaloratory A ros
4. Location of \	Well <i>(Footage, Sec.,</i>	T., R., M., or Survey Description)	42111154 11	2222221	10. Field and Pool, or Wildcat	Exploratory Area
2331' FNL,	549' FWL (SW/4	NW/4), Section 24, T20S, R1E,		•	11. County or Parish,	State
			9.655841 -11		Sanpete County	, Utah
		PPROPRIATE BOX(ES) TO	INDICATE NATUR	E OF NOTICE, R	EPORT, OR OTHE	R DATA
TYPE OF	SUBMISSION		TYP	E OF ACTION		
✓ Notice of Subseque		Acidize Alter Casing Casing Repair	Deepen Fracture Treat New Construction	Production (Statement   Production   Statement   Recomplete	·	ter Shut-Off Il Integrity
	•	Change Plans	Plug and Abandon	Temporarily Ab		
Final Aba	andonment Notice	Convert to Injection	Plug Back	Water Disposal		
Attach the following testing has	Bond under which to completion of the interpretation of the interp	ted Operation (clearly state all pertinent pertinent or recomplete horizontally the work will be performed or provisor of operations. If the operation and Abandonment Notices shall be by for final inspection.)	y, give subsurface location de the Bond No. on file w results in a multiple comple	s and measured and tru ith BLM/BIA. Require etion or recompletion is	e vertical depths of all peed subsequent reports sha	artinent markers and zones.  Il be filed within 30 days
but the a	access and drilling and H2S continge	well was approved for drilling vertical well to a proposed dept g pad location remain as appro ncy requirements. Proposed cl	th of 16,200'. The plans ved. The drilling plan w nanges to the approved	ned drilling pad layo was modified to acco APD are tabulated	out and well spot on the omodate changed casi on the attached docu	ne pad were changed, ng, cementing, pressure ment.
Attachm	ients: Survey Plat	, Changes to Original Drilling	Plan, Drilling Pad Lay	out plat, BOP Schen	natic, H2S Contingen	ey Plan
•	RECEIVE May 08 200	06	Approved by Utah Division	n of		
	OF OIL, GAS &	MINING Date:	OS-16-			proval of this
14. Ihereby c Name (Pi	ertify that the fore rinted/Typed)	going is true and correct	A STANK	WXX		cessary
·	Edward Higuera		Title	nager - Developme	nt	

THIS SPACE FOR FEDERAL OR STATE OFFICE USE COPYSENTION Title Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease Office

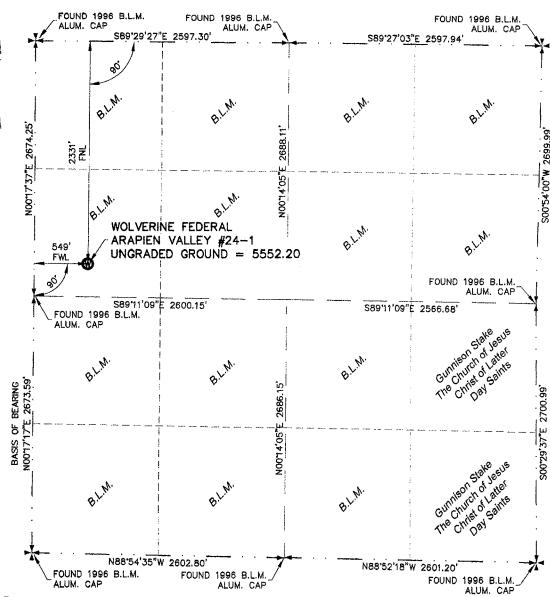
05/01/2006

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department of agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

which would entitle the applicant to conduct operations thereon.



# Section 24, T.20 S., R.1 E., S.L.B. & M.



#### RECEIVED

#### BASIS OF BEARINGS

MAY 08 2006

DIV. DE OIL GAS & MINING

BASIS OF BEARING USED WAS NOO"7'17"E BETWEEN THE SOUTHWEST CORNER AND THE WEST QUARTER CORNER OF SECTION 24, T.20 S., R.1 E., S.L.B. & M. LATITUDE = 39"03'21.3920" (39.05594222) NAD 83 LONGITUDE = -111'45'29.2655" (-111.75812931) NAD 83

#### PROJECT

#### Wolverine Gas & Oil Company of Utah, L.L.C.

WELL LOCATION, LOCATED AS SHOWN IN THE S.W. 1/4 OF THE N.W. 1/4 OF SECTION 24, T.20 S., R.1 E., S.L.B. & M. SANPETE COUNTY, UTAH

#### **LEGEND**

= SECTION CORNERS LOCATED

► = QUARTER SECTION CORNERS LOCATED

= PROPOSED WELL HEAD

NOTE: THE PURPOSE OF THIS SURVEY WAS TO PLAT
THE WOLVERINE FEDERAL ARAPIEN VALLEY #24-1
LOCATION. LOCATED IN THE S.W. 1/4 OF
THE N.W. 1/4 OF SECTION 24, T.20 S., R.1 E.,
S.L.B. & M., SANPETE COUNTY, UTAH.

#### BASIS OF ELEVATION

ELEVATION BASED ON THE 1966 REDMOND, UTAH U.S.G.S QUADRANGLE MAP



#### CERTIFICATE

THIS IS TO CERTIFY THAT THIS PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION, AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.





#### Jones & DeMille Engineering

1535 South 100 West — Richfleid, Utoh 84701 Phone (435) 896-8266 Fox (435) 896-8268 www.jonesoncdemille.com

#### Well Location Plat for

Wolverine Gas & Oli Company of Utah, L.L.C.

DESIGNED	SURVEYED	CHECKED	DRAWN	PROJECT NO.	SHEET NO.
	T.W.G.	T.R.G.	T.R.G.		
DATE		DWG.NAME	SCALE	0506-124	1
05/01/06	1	WELLLOC241	1"=1000"	1	l

# Attachment to Sundry Notice - Changes to Original Drilling Plan

#### Wolverine Gas and Oil Company of Utah, LLC

#### Change of Drilling Plans for the:

Wolverine Federal Arapien Valley 24-1 API No. 43-039-30030 SW/4 NW/4 Sec. 24, T20S, R1E, SLB&M Sanpete County, Utah



#### **Requested Change**

#### **Original APD**

#### **Location of Well:**

At Surface: 2331' FNL, 549' FWL
At Navajo Top: 2331' FNL, 549' FWL

Note: See revised survey plat.

2358' FNL, 696' FWL

792' FNL, 1868' FML

Total Depth:

16,200'

11,500'

#### **Casing Program:**

	Casing Size, Grade, Weight	Depth Interval	Hol	<u>e Size</u>	Casing Size, Grade, Weight	Depth Interval
30"	24", conductor	0 - 150'	3	36"	30", conductor	0 - 150'
17.50"	13-3/8", J-55, 68.0#	0 - 3000°	[ 1	7.50"	13-3/8", J-55, 68.0#	0-3500°
12.25"	9-5/8", HCP-110, 47.0#	0 - 11600'	12.2	25"/8.5'	' 7", HCP-110, 26.0#	0-11500'
8.50"	4-1/2", P -110, 15.1#	0-16200'				

Note: See attached table of minimum casing design factors.

RECEIVED

MAY 08 2006

#### **Requested Change**

#### **Original APD**



#### **Cementing Program:**

Casing Cement Quantity, Type, Yield, and Slurry Weight	Casing	Cement Quantity, Type, Yield, and Slurry Weight
13-3/8" 870 sks, CBM Lite, 4.12 ft <sup>3</sup> /sk, 10.5 ppg		1100 sks, Hi-fill, 3.86 ft <sup>3</sup> /sk, 11.0 ppg
600 sks, Premium Plus, 1.19 ft <sup>3</sup> /sk, 15.6 ppg		600 sks, Premium Plus, 1.19 ft <sup>3</sup> /sk, 15.6 ppg
9-5/8" 650 sks, 50:50 Poz, 1.71 ft <sup>3</sup> /sk, 13.0 ppg	7"	400 sks, 50:50 Poz, 1.21 ft <sup>3</sup> /sk, 14.35 ppg
4-1/2" 1250 sks, 50:50 Poz w/20% Si, 1.47 ft <sup>3</sup> /sk, 14.3 ppg		

**Elevation:** 

5554' GR, 5580' KB

5560' GR

#### **Geologic Formations:**

<b>Formation</b>	Interval-MD	Contents	Formation	Interval-MD	Contents
Arapien	26'(Surf) – 9425'		Arapien	Surf - 8800'	
Twin Creek	9425' – 9755'	W, G & O	Twin Creek	8800' – 9550'	W, G & O
Navajo	9755' – 11507'	W, G & O	Navajo	9550' – 11250'	W, G & O
Chinle	11507' – 12081'	W	Chinle	11250' – 11500'	W
Moenkopi	12081' – 14680'				
Kaibab	14680' – 15259'	W, G & O			
Toroweap	15259' – 16200'	W	j		
<b>Total Depth</b>	16200'		Total Depth	11500'	

#### **Pressure Control Equipment:**

A 10k multi-bowl casing spool, 10k single pipe ram BOP, 10k double ram pipe and CSO BOP, 5k annular preventer, and 5k rotating head will be utilized.

The BOPE will be tested as required per BLM Onshore Order 2.

Note: See attached BOPE diagram.

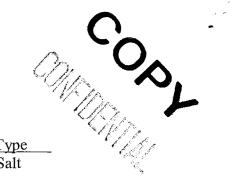
All BOPE was rated 5k and the single set of pipe rams was not included.

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#### **Requested Change**

#### **Original APD**



#### **Drilling Fluids:**

Depth	Mud Weight (ppg)	Туре
0'-3000'	9.2 - 10.0	Salt
3000' – 11600'	9.5 - 10.5	Salt
11600' – 16200'	9.2 - 10.0	Salt

	Depth	Mud Weight (ppg)	Type
	0'-3500'	9.6 - 10.2	Salt
1	3500' – 11500'	10.0 - 10.6	Salt

#### Hydrogen Sulfide:

No significant H<sub>2</sub>S gas is expected, but there is a possibility of it being present in the Kaibab Formation. A H<sub>2</sub>S Contingency Plan will to be in effect before drilling below the Moenkopi (±14400').

No H<sub>2</sub>S Contingency Plan was needed because no H<sub>2</sub>S is present in formations above the Kaibab.

#### Pad Layout/Reserve Pit:

The well location and pad layout have been altered to accommodate a larger drilling rig, to drill only one well rather than multiple wells on the same pad, and to provide for H<sub>2</sub>S contingency plan considerations. Total disturbed area was reduced.

Note: See revised pad layout diagram

A 390' x 400' drilling pad was originally proposed.

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# Wolverine Federal Arapien Valley 24-1 **Minimum Casing Design Factors**

# COPY

	Surface	Intermediate	Production
Casing O. D. (in)	13.375	9.625	4.500
Casing Grade	J-55	HCP-110	P-110
Weight of Pipe (lbs/ft)	68.0	47.0	15.1
Connection	BTC	LTC	LTC
Top Setting Depth - MD (ft)	0	0	0
Top Setting Depth - TVD (ft)	0	0	0
Bottom Setting Depth - MD (ft)	2000	11600	16200
Bottom Setting Depth - TVD (ft)	2000	11600	16200
Maximum Mud Weight - Inside (ppg)	10.0	10.5	10.5
Maximum Mud Weight - Outside (ppg)	10.0	10.5	10.5
Design Cement Top - TVD (ft)	0	8900	11000
Design Cement Top - MD (ft)	0	8900	11000
Max. Hydrostatic Inside w/ Dry Outside (psi)	1040	6334	8845
Casing Burst Rating (psi)	3450	9440	14420
Burst Safety Factor (1.10 Minimum)	3.32	1.49	1.63
Max. Hydrostatic Outside w/ Dry Inside (psi)	1040	6334	8845
Collapse Rating (psi)	1950	7100	14340
Collapse Safety Factor (1.10 Minimum)	1.88	1.12	1.62
Casing Weight in Air (kips)	136.0	545.2	244.6
Body Yield (kips)	1069	1453	485
Joint Stength (kips)	1140	1213	406
Tension Safety Factor (1.60 Minimum)	7.86	2.22	1.66

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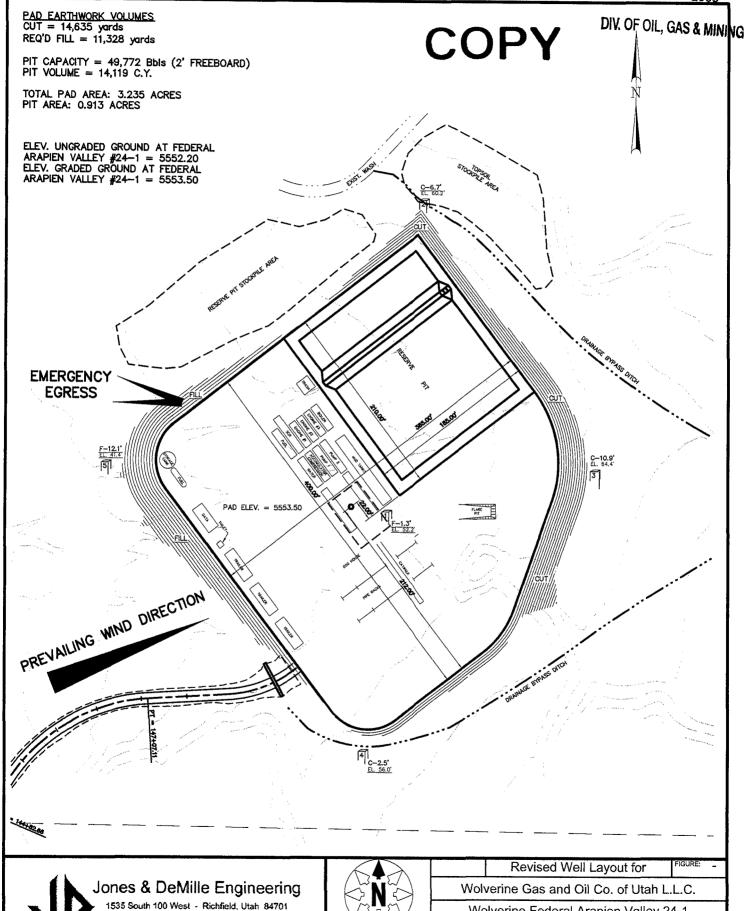
Wolverine Federal Arapien Valley 24-1

SHEET:

5/1/2006

DRAWN: LG/BL 04-06 PEN

CHECK: DHR 04-06



SCALE:

1"=100"

Phone (435) 896-8266 Fax (435) 896-8268

www.jonesanddemille.com

#### **H2S Contingency Plan**

for

# Wolverine Gas and Oil Company of Utah, LLC Wolverine Federal Arapien Valley 24-1

Section 24
Township 20S - Range 01E
Sanpete Co, Utah

Elevation 5554 ft

CONFIDENTIAL

Wolverine Cas and Oll Company of Utah, LLC One Riverfront Plaza 55 Campau, NW Grand Rapids, Michigan 48503-2616

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#### Introduction

It is the policy of WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC to provide a safe and healthful work environment for all of its employees as well as contractors that may work on WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC leases. WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC makes a continued effort to comply with laws and regulations relative to worker safety and health, and to manage all operations in a manner to reduce risk.

The following is a H2S contingency plan for the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC <u>Wolverine Federal Arapien Valley 24-1</u> well. It is designed for personnel working on this project to follow in case of an accidental release of hydrogen sulfide during drilling and or completion operations. For the plan to be effective, all personnel must review and be familiar with onsite duties as well as the safety equipment involved.

The purpose of this plan is to act as a guideline for personnel working on the wellsite in the event of a sudden release of hydrogen sulfide. All personnel working on the wellsite as well as service personnel that may travel to location on an unscheduled basis must be familiar with this program. The cooperation and participation of all personnel involved with the drilling operation is necessary for this plan to be effective.

#### Directions to location:

From the town of Mayfield in Sanpete County, go approximately 4 miles south on county road, then turn southwesterly for 2 miles on lease road to location.

#### I. Duties & Responsibilities

In order to assure proper execution of the contingency plan, it is essential that one person be responsible for and in complete charge of implementing the procedures outlined in this plan. The order of responsibility will be as follows:

- 1. WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC representative on location if unable to perform his/ her duties
- 2. Alternate WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC representative if unable to perform his/ her duties
- 3. Rig Toolpusher/ Supervisor if unable to perform his/ her duties
- 4. Safety consultant representative- if available

#### A. All Personnel

- 1. Always be alert for possible H2S alarms- both audible and visual.
- 2. Be familiar with location of Safe Briefing Areas (SBA) and protective breathing equipment.
- 3. Develop a "wind awareness". Be aware of prevailing wind direction as well as nearby uphill areas, should there be no wind.
  - 4. Familiarize yourself with nearest escape routes for safe evacuation
- 5. Should H2S alarm sound, DON'T PANIC Remain calm and follow instructions of person in charge.
  - 6. If the H2S alarms sound:
- a. Essential personnel shall don the appropriate respiratory protective equipment and follow company procedures. Essential personnel will continue to wear respiratory protective equipment until the area is deemed safe (H2S concentration less than 10 PPM)
- b. Non-essential personnel shall evacuate to the appropriate safe briefing area using escape-breathing systems. Wait there for further instructions from WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC drilling representative.
  - C. Initiate rescue protocol if necessary- following training procedures.

# B. WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC - Foreman

- 1. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman will confirm that all personnel on location at any time are trained in H2S safety and aware of above list of duties.
- 2. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman will ensure that all personnel observe all safety and emergency procedures.
- 3. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman will make an effort to keep the number of personnel on location to a minimum and to ensure that only essential personnel are on location during critical operations.
- 4. Should and extreme danger condition exist, the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman will:
- a. Assess the situation and advise all personnel by appropriate means of communication.
- b. Be responsible for determining that the extreme danger condition is warranted and the red flag shall be posted at location entrance.
- c. Go to safe briefing area and give clear instructions relative to hazard on location, and actions for personnel to follow.
- d. Notify company and regulatory groups of current situation as outlined in company protocol. Follow appropriate emergency procedures for emergency services notification.
- e. Proceed to rig floor and supervise operations with rig supervisor. Take action to control and reduce the H2S hazard.
- f. Ensure that essential personnel are properly protected with supplied air breathing equipment and that non-essential personnel are in a "poison gas free" area.
- g. Be responsible for authorizing evacuation of persons/ residents in area surrounding the drilling location.
- h. Commence any ignition procedures if ignition criteria are met.

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#### C. Rig Supervisor- Toolpusher

- 1. If the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman is unable to perform his/ her duties, and the alternate foreman is also unable or unavailable to perform his duties, the drilling rig toolpusher will assume command of wellsite operations and all responsibilities listed above for drilling foreman.
- 2. Ensure that all rig personnel are properly trained to work in H2S environment and fully understand purpose of H2S alarms, and actions to take when alarms activate. Ensure that all crew personnel understand the buddy system, safe briefing areas, and individual duties as well as emergency evacuation procedures.
- 3. Should any extreme danger operational condition arise, the rig toolpusher shall assist the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman by:
- a. Proceeding to the rig floor and assist in supervising rig operations.
- b. Ensure that only essential working personnel remain in hazardous areas.
- c. Ensure that all crewmembers that remain in hazardous area, wear respiratory protective equipment until notified that area is "clear" of any toxic gases.
- d. Assign rig crewmember or other service representative to block entrance to location. No unauthorized personnel will be allowed entry to location.
- e. Help to determine hazardous "danger zones" on location using portable detection equipment and position electric fans to move gas in any high concentration areas.

#### D. Safety Consultant

- 1. During normal operations (no H2S present), the safety consultant will be responsible for the following:
- a. Ensure that all wellsite safety equipment is in place and operational.
- b. Ensure that all wellsite personnel are familiar with location safety layout and operation of all safety equipment.
- c. Assist the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman in performing weekly H2S drills for location personnel.
- 2. When an operational condition is classified as extreme danger, the safety consultant will be responsible for the following:
- a. Account for all wellsite personnel
- b. Assess any injuries and direct first aid measure.
- c. Ensure that all safety and monitoring equipment is functioning properly and available.
- d. Monitor the safety of wellsite personnel
- e. Maintain a close communication with WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman.
- f. Be prepared to assist WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman with support for rig crew or other personnel using breathing equipment.
- g. Be prepared to assist WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman with emergency procedures including possible well ignition.
- h. Be prepared to assist with evacuation of any area residents or other personnel working in the immediate area.

#### E. Operation Center Foreman

- 1. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC Operations Center Foreman will be responsible for notifying and maintaining contact with company production manager as well as other company supervisory personnel.
- 2. Maintain communication with the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman to proceed with any other assistance that might be required.
  - 3. Travel to wellsite if appropriate
- 4. Assist WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman with all other notifications both company and regulatory.

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#### II. Well Location Layout

#### A. Location

- 1. All respiratory protective equipment and H2S detection equipment will be rigged up prior to drilling the production casing hole section beginning at 10,900' or once the Chinle formation has been encountered. The rig crews and other service personnel will be trained at this time. All rig crews will be trained and all safety equipment in place and functioning prior to drilling below this depth.
- 2. The drilling rig will be situated on location to allow for the prevailing winds to blow across the rig toward the circulation tanks or at right angles to the lines from the B.O.P.s to the circulation tanks or as near this configuration as possible.
- 3. The entrance to the location is designed so that it can be barricaded if a hydrogen sulfide emergency condition arises. An auxiliary exit route will be available so that in case of an emergency, a shift in wind direction would not prevent escape from the location.
- 4. A minimum of 2 safe briefing areas (SBA) shall be designated for assembly of personnel during emergency conditions. These will be located at least 150 ft. or as practical, from the wellbore and in such a location that at least one area will be upwind of the well at all times. Upon recognition of an emergency situation, all personnel will be trained to assemble at the designated briefing area for instructions.
- 5. Smoking areas will be established and "No Smoking" signs will be posted around the location
- 6. Reliable 24 hour telephone communications will be available at the drilling foremen's office.
  - 7. A mud-gas separator will be rigged up and manifolded to the choke system.
- 8. All equipment that might come in to contact with hydrogen sulfide drill pipe, drill stem test tools, blowout preventers, casing, choke system will meet WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC's metallurgy requirements for H2S service.
- 9. The drilling rig will have a continuous electronic H2S detection system that automatically with activate visible and audible alarms if hydrogen sulfide is detected. The visible light will activate if 10 ppm H2S is present. The audible siren will activate if 15 ppm H2S or higher concentration is present. There will be at least 4 H2S sensors in place on the drilling rig. They will be located to detect the presence of hydrogen sulfide in areas where it is most likely to come to surface. The sensor head locations will be: 1) rig floor by driller's console, 2) substructure area near the bell nipple, 3) the shale shaker, 4) the mud mixing area. Additional sensors will be positioned at the discretion of the drilling foreman. At least 1 light and 1 siren will be placed on the rig to indicate the

v1r1 2006.05.01 RECEIVED presence of hydrogen sulfide. The light and siren will be strategically placed to be visible to all personnel on the drill site. Additional alarm lights & sirens may be added to ensure that all personnel on the drill site are able to notice the alarms at any time.

- 10. The H2S detection equipment will be calibrated as recommended by the manufacturer. Calibration records will be maintained on location.
- 11. A least 4 windsocks will be placed around the drill site to ensure that everyone on the drilling location can readily determine wind direction. One windsock will be mounted on or near the rig floor to be readily visible to rig crews when tripping pipe.
- 12. All respiratory protective equipment will be NIOSH/ MSHA approved positive pressure type and maintained according to manufacturer's guidelines. All breathing air used for this equipment will be CGA type Grade D breathing air.
- 13. Both 30-minute self-contained breathing apparatuses (SCBA) and workline units with escape cylinders will be available on location. There will be sufficient numbers of this supplied air breathing equipment on location to ensure that all personnel on location have 1 piece of equipment available to them. All respiratory protective equipment will use nose cups to prevent fogging in temperatures below 32 F. Spectacle kits will be available for personnel that require corrective lenses when working under mask.
- 14. Electric explosion- proof ventilating fans (bug blowers) will be available to provide air movement in enclosed areas where gas might accumulate.
- 15. H2S drills will be conducted at least weekly to ensure that all well site personnel are competent in emergency donning procedures. These drills will be recorded in the driller's log, as well as in the safety trailer logbook.
- 16. Electronic voice-mikes will be available for essential personnel to use when working under mask to facilitate communication.
- 17. Additional breathing equipment will be provided for non routine operations that require additional service personnel on the well location to ensure that all personnel on the well location have a dedicated supplied air respirator.
- 18. Location access will be monitored and controlled during "non-routine" operations such as perforating, pressurized pumping, and well testing. The number of personnel on location will be restricted to "essential" personnel only.

#### III. Safety Procedures

#### A. Training

All personnel who come onto the location must be properly trained in hydrogen sulfide, nitrogen, and oxygen deficient atmospheres safety. The personnel shall carry documentation with them indicating that the training has occurred within the previous 12 months. All training will comply with federal and state regulatory guidelines.

Training topics shall include at a minimum:

- 1. Hazards and characteristics of hydrogen sulfide, nitrogen, and oxygen deficient atmospheres and symptoms of exposure to these gases.
- 2. Proper use, care and limitations of respiratory protective equipment with hands on practice.
  - 3. Use of both fixed and portable detection toxic gas equipment.
- 4. Work practices to reduce opportunities for toxic gas exposure as well as confined space procedures.
  - 5. First aid for toxic gas exposure and resuscitation equipment.
  - 6. The buddy system
  - 7. Emergency evacuation procedures
  - 8. A review of the contingency plan for the well.

#### B. Operating Conditions

A three color- flag warning system will be used to notify personnel approaching the drill site as to operating conditions on the wellsite. This system is in compliance with BLM OO#6 and follows industry standards.

Green Flag - Potential Danger

Yellow Flag - Moderate Danger

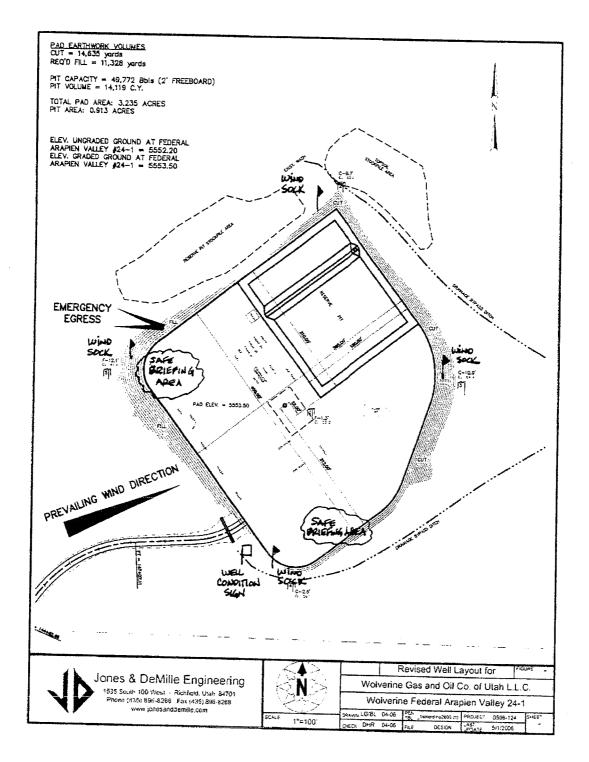
Red Flag- Extreme Danger - Do Not approach if red flag is flying.

# IV. H2S Safety Equipment on Drilling Location

ltem	Amount	Description		
1.	1	safety trailer with a cascade system of 10-300 cu. ft bottles of compressed breathing air complete with high-pressure regulators		
2.	At least 1000 ft.	Low-pressure airline equipped with Hanson locking fittings. This airline will be rigged up with manifolds to supply breathing air to the rig floor, substructure, derrick, shale shaker area, and mud mixing areas. Three high-pressure refill hoses will be attached to cascade systems for cylinder refill.		
3.	Twelve (12)	Scott 30 minute self-contained breathing apparatuses (SCBA).		
4.	Twelve (12)	Scott airline units with emergency escape cylinders.		
5.	One (1)	4- channel continuous electronic H2S monitor with audible and visual alarms. The set points for these alarms are 10 ppm for the low alarm and 15 ppm for the high alarm.		
6.	Two (2)	Sensidyne portable hand operated pump type detection units with tubes for hydrogen sulfide and sulfur dioxide.		
7.	One (1)-oxygen resuscitator with spare oxygen cylinder.			
8.	One (1)-trauma first aid kit			
9.	One (1)	stokes stretcher and one (1) KED.		
10.	Four	windsocks		
11.	At least one (1)	well condition sign with 3 flag system.		
12.	Two (2)	Safe Briefing Area (SBA) signs		
13.	One (1)-fire blanket	t .		

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14.	One (1)	set air splints
15.	Two (2)	electric explosion proof fans
16.	One (1)	builhorn and chalk board
17.	Three (3)	300 cu. ft. air bottles for the safe briefing area.
18.	Two (2)	30 # fire extinguishers
19.	Six (6)	battery powered voice mikes for communication when wearing air masks.
20.	One (1)	battery powered combustible gas meter



#### V. Well Ignition Procedures

If it should become apparent that an uncontrolled release of hydrogen sulfide to the atmosphere might endanger the health and safety of the public or well site personnel, the WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC drilling foreman will make a decision to ignite the well. The following procedure should be followed before attempting to ignite the well.

- A. Ignition equipment The following equipment will be available for on-site for use by the ignition team.
- 1. 2-12 gauge flare guns with flare shells
- 2. 2-500 ft. Fire resistant retrieval ropes
- 3. 1 portable combustible gas meter
- 4. Self contained breathing apparatus (SCBA) for each member of the ignition team.
- 5. 1 backup vehicle with communication equipment
- B. Ignition Procedures
- 1. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC drilling foreman will ensure that well site personnel are evacuated to a safe area upwind of the well bore prior to any ignition action.
- 2. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman and a designated partner "buddy" backed up by well site safety personnel will comprise the ignition team. All team members will be wearing 30 minute SCBAs.
- 3. The backup crew will be positioned near a radio-equipped vehicle at a safe distance from the sour gas release. They will standby to rescue the actual team igniting the well.
- 4. The partner of the ignition team will carry a combustible gas/ hydrogen sulfide meter to continuously monitor the area in which they are working and define the perimeter of the gas cloud.
- 5. The WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC foreman will carry the flare gun and shells.
- 6. The ignition team will determine the hazardous area and establish safe working perimeters. Once this is identified the team will proceed upwind of the leak and fire into the area with flare gun. If trouble is encountered in trying to light the leak, retry to ignite by firing the flare shells at 45 and 90 angles to the gas source, but DO NOT approach closer to the leak.
- 7. After ignition, monitor for sulfur dioxide and work with the support group to restrict access to the contaminated area.

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#### VI. Residents - Public in R.O.E.

There are no permanent residents within a 2-mile radius of the well site. WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC may have personnel working in the area and their contact numbers will be included. The surrounding area is federally and privately owned and maintained. This land may be used for recreational purposes including hunting and recreational vehicles any time during the drilling or completion of this well.

# VII. Emergency Phone Directory

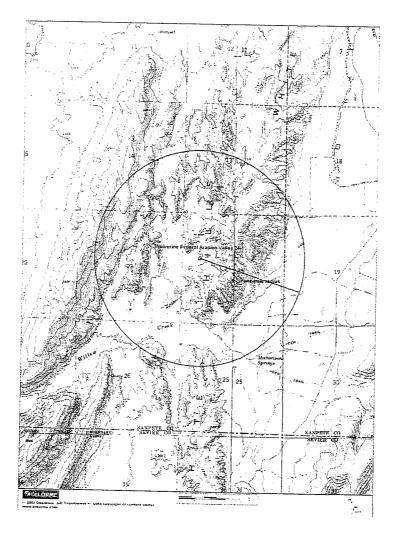
# WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC

Steven R Hash	(Drilling Mgr – EXACT Engineering, Inc)	office cell	918-599-9400 918-599-9801
Doc Asay	(Drilling Mgr – SST Drilling)	office cell	307-235-3529 307-259-1242
Darren Naylor	(On Site Rep – Wolverine Operating Co)	cell	918-645-6671
Ed Higuera	(Operations Manager - Wolverine)	office	616-458-1150

# **B. Emergency Services Phone List**

1. Sevier Valley Medical Center, Sevier County Utah	435-896-8271
2. Ambulance Services – Sevier County Utah	911
3. Sheriff Department- Sevier County Utah	911 or 435-896-2600
4. Highway Patrol - Sevier County Utah	911 or 435-896-6471
5. Fire Department – Sevier County Utah	911 or 435-896-2600
6. Bureau of Land Management - Richfield, Utah	911 or 435-896-1500
7. Medical Helicopter – Sevier County Utah	911 or 435-896-2600
8 Burn Center, Sevier County Utah	911 or 435-896-2600
9. Utah OSHA (Mark LeBlanc)	801-530-6862

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#### ONE-MILE RADIUS PLAT

17

proposed

O Wolverine Federal Arapien Valley 24-1 well
Section 24 T20S R1E
Sanpete County, Utah

(not to scale)
prep by EXACT Engineering, Inc. 5/1/2006

Wolverine Gas and Oil Company of Utah, LLC One Riverfront Plaza, 55 Campau NW Grand Rapids, Michigan 49503 (616) 458-1150

# II A. Location Layout for Workover/ Completion

1. If H2S is previously determined during drilling operations to exist, all H2S safety equipment will be available at the time that personnel first move onto the well site. Respiratory protection equipment as well as detection equipment will be on hand should any H2S gas be detected during the initial rig up period.

# PROPERTY OF GAS

If gas should be produced, it could be a mixture of Carbon Dioxide, Hydrogen Sulfide, and Methane.

# TOXICITY OF VARIOUS GASES

Common Name	Chemical <u>Formula</u>	Specific Gravity of Air=1	1 Threshold <u>Limit</u>	2 Hazardous <u>Limit</u>	3 Lethal <u>Concern</u>
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	$\mathbf{SO}_2$	2.21	2 ppm	and the state of t	1,000 ppm
Chloride	$\mathbf{CL}_1$	2.45	1 ppm	4 ppm/hr	1,000 ppm
Carbon Monoxide	СО	0.97	50 ppm	400 ppm/hr	1,000 ppm
Carbon Dioxide	$CO_2$	1.52	5,000 ppm	5%	10%
Methane	CH <sub>4</sub>	0.55	90,000 ppm	Combustible Above 5% in Air	

<sup>1 &</sup>lt;u>Threshold</u>=Concentration at which it is believed that all workers may repeatedly be exposed, day after day, without adverse side effects.

<sup>2</sup> Hazardous=Concentration that may cause death.

<sup>3 &</sup>lt;u>Lethal</u>=Concentration that will cause death with short-term exposure.

# HYDROGEN SULFIDE

### **GENERAL PROPERTIES**

Hydrogen Sulfide itself is a colorless and transparent gas and is flammable. It is heavier than air and, hence, may accumulate in low places.

Although the slightest presence of H2S in the air is normally detectable by its Characteristic "Rotten Egg"odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of Hydrogen Sulfide, which is more toxic than Carbon Monoxide.

COMMON NAMES: Sour Gas, Rotten Egg Gas, Sulphurated Hydrogen, Hydrogen sulfide, Stink Damp, H2S, Acid Gas, Sweet Gas\*

# PHYSICAL-CHEMICAL PROPERTIES

Chemical Formula H2S
1. Specific Gravity (Air = 1.000) 1.193 (@ 77°F)
2. ColorNone
3. Odor Compared to Rotten Eggs
4. Odor Threshold 0.13 part of 1 ppm
5. Corrosivity
6. Solubility in Water
7. Effects on Humans
8. Vapor Pressure
9. Explosive Limits
* H2S is a sweet tasting Gas, but often the word "tasting" is left out.

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# **INDUSTRIAL OCCURRENCES**

Hydrogen Sulfide exposures occur in certain processes in the petroleum industry, chemical plants, chemical laboratories, sulfur and gypsum mines, viscose rayon and rubber industries, tanneries, and in the manufacture of some chemicals, dyes, and pigments. It may be encountered in excavations in the swampy or filled ground. It is produced when sulfur-containing organic matter decomposes, and it can therefore be found in sewage or organic-waste treatment plants. A common sewer gas, it may find its way into utility manhole, particularly dangerous when encountered in tanks, vessels, and other enclosed spaces.

### **TOXIC PROPERTIES**

Hydrogen Sulfide is an extremely toxic and irritating gas. Free Hydrogen Sulfide in the blood reduces its oxygen carrying capacity, thereby depressing the nervous system. Sufficiently high concentrations can cause blockage of the phrenic nerve, resulting in immediate collapse and death due to respiratory failure and asphyxiation.

Because Hydrogen Sulfide is oxidized quite rapidly to sulfates in the body, no permanent after effects occur in cases of recovery from acute exposures unless oxygen deprivation of the nervous system is prolonged. However, in cases of acute exposures, there is always the possibility that pulmonary edema may develop. It is also reported that symptoms such as nervousness, dry nonproductive coughing, nausea, headache, and insomnia, lasting up to about 3 days have occurred after acute exposures to Hydrogen Sulfide.

At low concentrations the predominant effect of Hydrogen Sulfide is on the eyes and respiratory tract. Eye irritation, conjunctivitis, pain, lacrimation, keratitis, and photophobia may persist for several days. Respiratory tract symptoms include coughing, painful breathing, and pain in the nose and throat.

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There is no evidence that repeated exposures to Hydrogen Sulfide results in accumulative or systemic poisoning. Effects such as eye irritation, respiratory tract irritation, slow pulse rate, lassitude, digestive disturbances, and cold sweats may occur, but these symptoms disappear in a relatively short time after removal from the exposure. Repeated exposures to Hydrogen Sulfide does not appear to cause any increase or decrease in susceptibility to this gas.

The paralytic effect of Hydrogen Sulfide on the olfactory nerve is probably the most significant property of the gas. This paralysis may create a false sense of security. A worker can be overcome after the typical rotten-egg odor has disappeared. Rather than the characteristic Hydrogen Sulfide odor, some victims of sudden acute overexposure have reported a brief sickeningly sweet odor just prior to unconsciousness.

Subjective olfactory responses to various concentrations of Hydrogen Sulfide have be summarized as follows:

0.02 ppm No odor

0.13 ppm Minimal perceptible odor

0.77 ppm Faint, but readily perceptible odor

4.60 ppm Easily detectable, moderate odor

27.0 ppm Strong, unpleasant odor, but not intolerable

Physiological responses to various concentrations of Hydrogen Sulfide have been reported as follows:

10 ppm Beginning eye irritation

50-100 ppm Slight conjunctivitis and respiratory tract irritation after 1 hour exposure

Coughing, eye irritation, loss of sense of smell after 2-15 minutes. Altered respiration, pain in the eyes, and drowsiness after 15-30 minutes, followed by throat irritation after 1 hour. Several hours¹ exposure results in gradual increase in severity of these symptoms and death may occur within the next 48 hours.

200-300 ppm Marked conjunctivitis and respiratory tract irritation after 1 hour exposure

500-700 ppm Loss of consciousness and possibly death in 30 minutes.

700 ppm Raped unconsciousness, cessation of respiration, and death.

1000-2000 ppm Unconsciousness at once, with early cessation of respiration and death in a few minutes. Death may occur even if individual is removed to fresh air at once.

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## **ACCEPTABLE CONCENTRATIONS**

# ACCEPTABLE EIGHT-HOUR TIME-WEIGHTED AVERAGE

To avoid discomfort, the Time-Weighted average concentration of Hydrogen Sulfide Shall not exceed 10 ppm.

# **ACCEPTABLE CEILING CONCENTRATION**

The acceptable concentration for protection of health for an eight-hour, f ive-day week shall be 20 ppm, Fluctuations are to occur below this concentration.

# ACCEPTABLE MAXIMUM FOR PEAKS ABOVE ACCEPTABLE BASE LINE FOR CONTINUOUS EXPOSURE

A single-peak concentration not exceeding 50 ppm for a maximum of 10 minutes is allowable provided that the daily time-weighted average is not exceeded.

### H2S EQUIVALENTS

Parts Per		Grains per
Million	Percents	100 cu. Ft.
1	0001	
•	.0001	.055
10	.001	<b>.</b> 55
18	.0018	1.0
100	.01	5.5
1000	.1	55.5
10000	1.0	555 <b>.</b> 5

Grains per 100 cu. Ft. = % by volume Mole 636.4 1% by volume = 10,000 ppm

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# SULFUR DIOXIDE

Sulfur Dioxide (SO2) is a colorless, transparent gas and is non-flammable.

Sulfur Dioxide is produced during the burning of H<sub>2</sub>S. Although SO<sub>2</sub> is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures, While Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect.

# **CONCENTRATIONS**

### **EFFECTS**

%SO2	2 ppm	
.0002	2	Safe for eight (8) hour exposure
.0005	5	Pungent odor-normally a person can detect SO2 in this range.
.0012	12	Throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes.
.015	150	So irritating that it can only be endured for a few minutes.
.05	500	Causes a sense of suffocation, even with the first breath.
	DITTOTOLY	

# PHYSICAL PROPERTIES AND CHARACTERISTICS

Chemical Formula	SO <sub>2</sub>
1. Specific Gravity	2.212
2. Color	None
3. Flammable	No
4. Odor	Characteristic, pungent, gives ample warning of its presence.
5. Corrosivity	Drynot corrosive to ordinary metals.  Wetcorrosive to most common metals.
6. Allowable Concentrations	.2 ppm (ACGIH) 2 ppm (OSHA)
7. Effects on Humans	. Irritates eyes, throat and upper Respiratory system.

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# TOXIC PROPERTIES

Sulfur Dioxide is an irritating gas in its vapor form and the odor is so intensely irritating that concentrations of 3 to 5 parts per million in the air are readily detectable by the normal person. In higher concentrations, the severely irritating effect of the gas makes it unlikely that any person would be able to remain in a Sulfur Dioxide contaminated atmosphere unless they were unconscious or trapped.

Sulfur Dioxide gas is intensely irritating to the eyes, throat, and upper respiratory system. Inhalation of this gas in concentrations of 8 to 12 parts per million in air causes throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes. 150 parts per million is so extremely irritating that it can be endured only for a few minutes. 500 parts per million is so acutely irritating to the upper respiratory tract that it causes a sense of suffocation, even with the first breath.

Out of numerous reported exposures to Sulfur Dioxide, there are few references that would indicate pneumonia as an after effect.

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KMY 0673



# WOLVERINE GAS AND OIL COMPANY of Utah, LLC

Energy Exploration in Partnership with the Environment

May 10, 2006

Mr. Gil Hunt State of Utah Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, Utah 84114-5801

Re:

Wolverine Federal Arapien Valley 24-1,

API #43-039-30030,

2331' FNL, 549' FWL, (SW/4 NW/4), Section 24, T. 20 South, R. 1 East, SLB&M,

Sanpete County, Utah

Dear Mr. Hunt:

An APD was originally submitted and approved to drill the referenced well directionally to a total depth of 11,500'. Wolverine Gas and Oil Company of Utah, LLC (Wolverine) has subsequently submitted a Sundry Notice requesting to drill the well as a vertical well to a depth of 16,200 feet. The well location was also adjusted to accommodate a larger drilling rig on the drilling pad.

A request for exception to spacing (R649-3-2) is hereby requested for this well based on geology and topography. The proposed well is located within 460' of the drilling unit boundary, but Wolverine is the only owner and operator within 460' of the proposed well location.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information included in this and previous correspondence relating to this well.

Thank you for your consideration of this request. Please feel free to contact me or Ellis Peterson of this office at 616-458-1150 if you have any questions or need additional information.

Sincerely,

Edward Higuera, Manager - Development

cc: BLM, Richfield Field Office

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES TO DIVISION OF OIL, GAS AND MINING

	DIVISION OF OIL, GAS AND MI	NING	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907
SUNDRY	NOTICES AND REPORTS	S ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
drill horizontal la	new wells, significantly deepen existing wells below cun aterals. Use APPLICATION FOR PERMIT TO DRILL fo	rent bottom-hole depth, reenter plugged wells, or to orm for such proposals.	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit
1. TYPE OF WELL OIL WELL	GAS WELL OTHER_		8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
2. NAME OF OPERATOR: Wolverine Gas and Oil Co	ompany of Utah, LLC		9. API NUMBER: 4303930030
3. ADDRESS OF OPERATOR: 55 Campau NW	Y Grand Rapids STATE MI ZIP	PHONE NUMBER: 49503-2616 (616) 458-1150	10. FIELD AND POOL, OR WILDCAT: Wildcat
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331'		1	соинту: Sanpete
QTR/QTR, SECTION, TOWNSHIP, RAN	IGE, MERIDIAN: SWNW 24 20S 1	E S	STATE: UTAH
11. CHECK APPI	ROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
NOTICE OF INTENT (Submit in Duplicate)	ACIDIZE  ALTER CASING	DEEPEN FRACTURE TREAT	REPERFORATE CURRENT FORMATION SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR	NEW CONSTRUCTION	TEMPORARILY ABANDON
	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR
	CHANGE TUBING	PLUG AND ABANDON	VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL
Date of work completion:	CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF
	COMMINGLE PRODUCING FORMATIONS  CONVERT WELL TYPE	RECLAMATION OF WELL SITE  RECOMPLETE - DIFFERENT FORMATION	✓ отнек: Request Permit Extension
12. DESCRIBE PROPOSED OR CO	DMPLETED OPERATIONS. Clearly show all p		es, etc.
	16/06. A one-year extension to th		otice changing location and drilling modifications provided by the
		Approved b	by the on of
		Oil, Gas and	Mining
Attachment: APD Reques	t for Permit Extension Validation	Date: 11-14-	06
	COPY SENT TO Dolle:	By: Fradle	JULY TO THE PROPERTY OF THE PR
NAME (PLEASE PRINT) Ellis M. Pe	eterson	TITLE Senior Production	n Engineer
SIGNATURE AND	Turson	DATE 11/9/2006	
This space for State use only)			RECEIVED

DIV. OF OIL, GAS & MINING

NOV 1 3 2006

### Application for Permit to Drill Request for Permit Extension Validation

(this form should accompany the Sundry Notice requesting permit extension)

API:

43-039-30030

Well Name: Wolverine Federal Arapien Valley 24-1 Location: 2331' FNL, 549' FWL, Section 24, T20S, R1E Company Permit Issued to: Wolverine Gas and Oil Company of Utah, LLC Date Original Permit Issued: 11/3/2005
The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision.
Following is a checklist of some items related to the application, which should be verified.
If located on private land, has the ownership changed, if so, has the surface agreement been updated? Yes □ No □
Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? Yes□No☑
Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? Yes□No☑
Have there been any changes to the access route including ownership, or right-of-way, which could affect the proposed location? Yes□No ☑
Has the approved source of water for drilling changed? Yes□No☑
Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? Yes□No☑
Is bonding still in place, which covers this proposed well? Yes ☑No□
11/9/2006
Signature Date
Title: Senior Production Engineer
Representing: Wolverine Gas and Oil Company of Utah, LLC



### WOLVERINE OPERATING COMPANY

of Utah, LLC

Energy Exploration in Partnership with the Environment

Mr. Gil Hunt Utah Division of Oil, Gas and Mining 1594 West North Temple, Suite 1210 Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Re: Wolverine Federal Arapien Valley 24-1,

2331' FNL, 549' FWL, (SW/4 NW/4),

Section 24, T. 20 South, R. 1 East, SLB&M,

Sanpete County, Utah

Dear Mr. Hunt:

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) respectfully submits the accompanying Sundry Notice with attachment in duplicate requesting an extension to the drilling permit for the subject well.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information included in this and previous correspondence relating to this well.

Thank you for your consideration of this request. Please feel free to contact me or Ed Higuera of this office at 616-458-1150 if you have any questions or need additional information.

Sincerely,

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NOV 1 3 2006

Ellis M. Peterson

Wolverine Gas and Oil Company of Utah, LLC

DIV. OF OIL, GAS & MINING

# **DIVISION OF OIL, GAS AND MINING**

### **SPUDDING INFORMATION**

Name of Coa	mpany:	WOLVERINE GAS & OIL CO UT
		WOLV FED ARAPIEN VLY 24-1
Api No <u>:</u>	43-039-3003	Lease Type: FEDERAL
Section 24	Township_	20S Range 01E County SANPETE
Drilling Cor	ntractor	PETE MARTIN DRLG RIG # RATHOLE
SPUDDE		10/ 03/07
	Time	
	How	DRY
Drilling w	ill Commend	e:
Reported by		STEVE HASH
Telephone#		(918) 599-9400
Date	10/03/07	Signed CHD

CONFIDENTIAL

EXACT Engineering, Inc. 415 S. Boston Ave., Suite 734 Tuisa, Okiahoma 74103

**EXACT** Engineering, Inc.

www.exactengmeering.com

Steven R. Hash, P.E.

office office fax

918.599.9400 918.599.9401

cellular stevehash@exactengineering.com

918,629,9801

### 

To:	Ms. Earlene Russeli – UDOGM	From:	Steve Hash
Fax	801-359-3940	Pages:	2 total
Phones	801-538-7200	Date:	Oct 3, 2007
Re:	Wolverine Federal Arapien Valley 24-1 - Form 6	CCI	

Dear Ms. Russell,

Stere

On behalf of Wolverine Gas and Oll Company of Utah, LLC, please find attached a State of Utah (form 6) Entity Action Form for the subject new well - APH 43-039-30030. The conductor casing was set on Oct 3, 2007. Actual drilling of this well will likely not commence until late November or early December, 2007. Thank you

Steve Hash

Petroleum Engineering Consulting, Personnel & Jobsite Supervision drilling, completion, production, pipelines, compression, evaluations, acquisitions, due diligence, procedures, cost estimates, expert testimony

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918-599-9401

### STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

		D	M	-
-	U	К	M	•

		ENTITY ACTION	FORM	
Operator:	Wolverine Gas and Oi	Company of Utah, LLC	Operator Account Number: N	1655
Address:	55 Campau NW, One	Riverfront Plaza	<u></u>	
	city Grand Rapids			
	state MI	zip 49503-2616	Phone Number: (61	16) 458-1150

Well 1

4303930030 We	olverine Federal Arapi	en Valley 24-1	SWNW	- 1			
		on valley 24-1	SAMIAAA	24	20\$	1E	Sanpete
Action Gode		New-Entity : Number :	Spud Eate		Entity Assignment Effective Date		
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Acaliannies.	Wall hairbeilden.	ASTRA MENTO	Ritte	County
Action Gode	The state of the same of the s	pud Date		ty Assignment Tective Date

Well 3

APt Number		Ju <b>e</b>	GQ Se	E EWP.	Rng	County
Action Code	Gurrent Entity Number	New Entity Number	Spud	Date		y Assignment fective Date
omments:						

### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

Steven R Hash - EXACT Engineering Inc

Name (Please Print) **Engineering Consultant** 10/3/2007 Title Date

(5/2000)

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OCT 0 3 2007

DIV. OF OIL, GAS & MINING

**EXACT Engineering, Inc.** 

www.exactengineering.com

415 S. Boston Ave., Suite 734, Tulsa, OK 74103 • (918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

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November 11, 2007

Mr. Al McKee **Bureau of Land Management Utah State Office** P.O. Box 45155 Salt Lake City, UT 84145-0155

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re: Drilling Update #2 - Wolverine Federal Arapien Valley 24-1

Sec 24 T20S R01E Sanpete Co, UT API# 43-039-30030

Gentlemen.

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well for November 4 and 10, 2007. SST Rig #68 is rigged up and the well was spud on November 9, 2007. Drilling of the 17-1/2" hole is presently underway at a depth of 895 feet toward a target 13-3/8" casing point of 2000 feet expected on or about November 12, 2007. We respectfully request that the enclosed information remain confidential.

Sincerely.

Steven R. Hash, P.E.

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**Enclosures** 

copy without enclosures via email to:

Steven R. Harl

Wolverine Gas & Oil Co of Utah, LLC: Helene Bardolph

**EXACT Engineering, Inc.** 

well file

DIV. OF OIL, GAS & MINING

Petroleum Engineering Consulting, Personnel & Jobsite Supervision complete well design, construction & management, drilling, completion, production, pipelines, appraisals, due diligence, acquisitions, procedures, temporary personnel and field supervision



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Form 3160-5

(April 2004)	DEPARTMEN		INTERIOR					OM B No. 1004-0137 Expires: March 31, 2007
011	BUREAU OF I			1445-1	•	5	5. Lease Serial UTU-809	
Do not	NDRY NOTICES use this form for p ned well. Use Forn	roposals t	o drill or to	re-en	ter an	6		Allottee or Tribe Name
SUBMIT	N TRIPLICATE-	Other instr	ructions on I	revers	ə sidə.			CA/Agreement, Name and/or No.
1. Type of Well Oil Well	Gas Well	Other	66	A;mi	() (		3. Well Nam	ne Federal Unit
2. Name of Operator Wolv		- Silah II					Wolveri	ne Fed Arapien Valley 24-1
3a Address	erine Gas & Oii Compa		3b. Phone No.	(include a	rea code)		API Wel 43-039-3	
	55 Campau NW, Grand	Rapids, MI	616-458-115					Pool, or Exploratory Area
4. Location of Well (Footage							Wildcat 11 County o	r Parish, State
2331' FNL & 549' FW	L (SW/4 NW4) Section 2	24, T20S, R1E	, SLB&M				Sanpete	·
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	CK APPROPRIATE	DUA(ES) 10	INDICATE N				OKI, UK	OTHER DATA
TYPE OF SUBMISSION			<b>_</b>	TYPE	OF ACTION			<b>—</b>
✓ Notice of Intent	☐ Acidize  ✓ Alter Casi	ng [	Deepen Fracture Trea		Production	•	Resume)	☐ Water Shut-Off ☐ Well Integrity
Subsequent Report	Casing R		New Constru		Recomplet			Other
Final Abandonment N	Change Pl		Plug and Aba	ındon	Temporari	•	ion	
Final Abandonment N	Convert to	Injection L	Plug Back		Water Dis	posal		
Casing 13-3/8" 68p Premium Plus (15. Requested change Casing 13-3/8" 68p Gilsonite (10.5ppg	6ppg, 1.19cfps) in 13-3/8" surface casin	etting depth 3 g: etting depth 2 il with 410 sx I	6000 ft; Cement 6000 ft; Cement Premium type I	: 1500' L II w/ 1%	ead w/ 405 sx Calcium Chl	· VARIC	EM (tm) w	efps), then Tail w/ 600 sx 1/ 1/8 pps flake & 10 pps 8ppg, 1.32cfps)
xe: UDOGM - Du	stin Doucet	;	OPY SENT TO	O DEDAT	ΩD:			RECEIVED
			ale: <u>//-/</u>	15-07				1 (2007
14. I hereby certify that	the foregoing is true and							NOV 1 3 2007
Name (Printed/Type Steven R	ped)	Correct	.	itle Con	sulting Engir	neer - E	хаст вјју	to OfinD Mic GAS & MINING
Signature Stu	uen 12 H	al		Date			1/2007	
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Approved by  Conditions of approval, if a certify that the applicant ho which would entitle the applicant.	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		ar thair a	or Offi	ccepted	t by t Noision	he D of ining	Federal Approval Of This Action Is Necessary
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(Instructions on page 2	?)			:N: _		UT	V	
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# File AV24-1 Remit

Form 3160-5 (April 2004)

# **UNITED STATES**

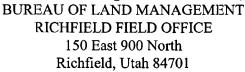
FORM APPROVED

	DEPARTMENT OF THE			i i	expires: March 31, 2007
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	NOTICES AND REI		_	U U BO	
	nis form for proposals t ell. Use Form 3160-3 (			NA.	Allottee of Tribe Nems
SUBMIT IN TR	IPLICATE- Other insti	ructions on revers	se side.		ne Federal Unit
1. Type of Well Oil Well	Gas Well Other			8. Well Nam	
2. Name of Operator Wolverine G	as and Oil Company of Utah,	LLC		Wolveri 9. API Wel	ne Fed. Arapien Valley 24-1 l No.
3a Address 55 Campau NW, Grand Rapid	s, Michigan 49503-2616	3b. Phone No. (include 616-458-1150	area code)	43-039-3 10. Field and	Pool, or Exploratory Area
4. Location of Well (Footage, Sec.,	T., R., M., or Survey Description)	- <del> </del>		Wildcat	
2331' FNL, 549' FWL (SW/4 I	NW/4), Section 24, T20S, R1E	, SLB&M		11. County o	r Parish, State
				Sanpete	County, Utah
	PPROPRIATE BOX(ES) TO			REPORT, OR	OTHER DATA
TYPE OF SUBMISSION	<u> </u>	TYP	E OF ACTION		
Notice of Intent	Acidize  Alter Casing	Deepen Fracture Treat	Production (S	tart/Resume)	☐ Water Shut-Off ☐ Well Integrity
Subsequent Report	Casing Repair	New Construction	Recomplete		Other
	Change Plans	Plug and Abandon	Temporarily A	bandon	
Final Abandonment Notice	Convert to Injection	Plug Back	Water Disposa	1	
following completion of the in- testing has been completed. Fi determined that the site is ready The original APD for this LLC now plans to drill a	inal Abandonment Notices shall be y for final inspection.) well was approved for drilling vertical well to a proposed dep	results in a multiple comp filed only after all requirer g a directional hole to a oth of 16,200'. The plan	letion or recompletion ments, including reclar total depth of 11,5 ned drilling pad la	n in a new interval mation, have been 100'. Wolverine yout and well sp	a Form 3160-4 shall be filed once completed, and the operator has  Oil and Gas Company of Utah,
control, and H2S continge	ency requirements. Proposed	changes to the approve	d APD are tabulate	d on the attach	ed document.
Attachments: Survey Plat	t, Changes to Original Drilling	, Plan, Drilling Pad Lay	out plat, BOP Sch	ematic, H2S Co	ntingency Plan
COP'	4			C	ONFIDENTIAL
14. Thereby certify that the fore Name (Printed/Typed) Edward Higuer		Title M	Ianager - Developn	nent	
Signature FA. 20	Pul	Date		05/01/2006	
- Cow Co	THIS SPACE FOR	Z	TATE OFFICE	E USE	
	11111	<del></del>			_ /
Approved by Conditions of approved, if any are	attached Approval of this notice	e does not warrant or	title 11550c F	icle Myr I	race 25 Sept 200 Treel Office
certify that the applicant holds lega	al or equitable title to those rights	in the subject lease	Office Right	riold 8	Tell Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212. make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to anymatter within its jurisdiction.



### United States Department of the Interior





### APD – REVISE BHL APD – REVISE DRILLING PROGRAM CONDITIONS OF APPROVAL

Operator:

Wolverine Gas & Oil Co. of Utah, LLC.

Well:

Federal #24-1 43-039-30034

SW¼ NW¼ Sec 24, T. 20 S., R. 1 E. SLB&M

Sanpete County, Utah

UTU-80907 Wolverine Unit

- A. The majority of the original Conditions of Approval (COAs) attached to the #24-1 APD, approved April 12, 2006, remain in effect.
- B. COA #1 of the drilling plan is deleted in its entirety.

### APD REQUIREMENTS FOR H2S

- 1. The authorized officer (Al McKee) shall be notified when operations are 500 feet above or 3 days before (whichever is earlier) drilling the first formation expected to contain H<sub>2</sub>S.
- 2. A copy of the Drilling Operations Plan (DOP) shall be available during operations at the wellsite beginning 500 feet above or 3 days before (whichever is earlier) drilling the first formation expected to contain  $H_2S$  (anticipated Kaibab Contact at  $\pm 14,680$ ° MD).
- 3. A Public Protection Plan (PPP) providing details of actions necessary to alert and protect the public in the event of a release of a potentially harmful volume of H<sub>2</sub>S shall be submitted to the authorized officer for drilling or producing operations when applicability criteria of Order No. 6 are met.
- 4. A copy of the PPP shall be available at the drilling and/or completion site.

- 5. H<sub>2</sub>S DOP and PPP shall be reviewed by the operator on an annual basis and copy of any necessary revisions shall be submitted to the authorized officer upon request.
- 6. If unanticipated H<sub>2</sub>S in excess of 100 ppm in the gas stream is encountered, the operator shall immediately ensure control of the well, suspend drilling operations (unless detrimental to well control), and obtain materials and safety equipment to bring the operations into compliance with the applicable provisions of Order No. 6. In addition, the operator shall notify the authorized officer of the event and the mitigating steps that have or are being taken, as soon as possible, but no later than the next business day. If said notifications are subsequent to actual resumption of drilling operations, the operator shall notify the authorized officer of the date that drilling was actually resumed. It is the operator's responsibility to provide, if necessary, a H<sub>2</sub>S DOP and a PPP to the authorized officer for approval within five business days following resumption of drilling ahead operations.

As a reminder, permit authorization contains the following Required Notifications:

The operator shall contact the BLM, Utah State Office, Branch of Fluid Minerals, (801) 539-4045, Cell (801) 201-7024, FAX (801) 539-4200, at least 24 hours prior to the following operations (Contact: Al McKee):

- spudding (including dry hole digger or rig hole rigs);
- running and cementing all casing strings;
- pressure testing of BOPE or any casing string.
- pressure integrity test (mud weight equivalency test) of each casing shoe.

### Attachment to Sundry Notice - Changes to Original Drilling Plan

### Wolverine Gas and Oil Company of Utah, LLC

### Change of Drilling Plans for the:

Wolverine Federal Arapien Valley 24-1 API No. 43-039-30030 SW/4 NW/4 Sec. 24, T20S, R1E, SLB&M Sanpete County, Utah



### **Requested Change**

### **Original APD**

### Location of Well:

At Surface:	2331' FNL, 549' FWL	2358' FNL, 696' FWL
At Navajo Top:	2331' FNL, 549' FWL	792' FNL, 1868' FNL

Note: See revised survey plat.

**Total Depth:** 16,200' 11,500'

### Casing Program:

Hole Size 30"	Casing Size, Grade, Weight 24", conductor	Depth Interval 0 – 150'		Hole Size 36"	Casing Size, Grade, Weight 30", conductor	Depth Interval 0 – 150'
17.50"	13-3/8", J-55, 68.0#	0 - 3000'	1	17.50"	13-3/8", J-55, 68.0#	0 – 3500'
12.25"	9-5/8", HCP-110, 47.0#	0 – 11600'	1	12.25"/8.5	" 7", HCP-110, 26.0#	0 – 11500'
8.50"	4-1/2", P -110, 15.1#	0 – 16200'	!			

Note: See attached table of minimum casing design factors.

### **Requested Change**

### **Original APD**



### **Cementing Program:**

Casing Cement Quantity, Type, Yield, and Slurry Weight	Cas	sing	Cement Quantity, Type, Yield, and Slurry Weight
13-3/8" 870 sks, CBM Lite, 4.12 ft <sup>3</sup> /sk, 10.5 ppg	13-	3/8"	1100 sks, Hi-fill, 3.86 ft <sup>3</sup> /sk, 11.0 ppg
600 sks, Premium Plus, 1.19 ft <sup>3</sup> /sk, 15.6 ppg			600 sks, Premium Plus, 1.19 ft <sup>3</sup> /sk, 15.6 ppg
9-5/8" 650 sks, 50:50 Poz, 1.71 ft <sup>3</sup> /sk, 13.0 ppg	7	,,,	400 sks, 50:50 Poz, 1.21 ft <sup>3</sup> /sk, 14.35 ppg
4-1/2" 1250 sks, 50:50 Poz w/20% Si, 1.47 ft <sup>3</sup> /sk, 14.3 ppg			

Elevation: 55

5554' GR, 5580' KB

5560' GR

### **Geologic Formations:**

Formation	Interval-MD	Contents	<u>Formation</u>	Interval-MD	<u>Contents</u>
Arapien	26'(Surf) – 9425'		Arapien	Surf - 8800'	
Twin Creek	9425' – 9755'	W, G & O	Twin Creek	8800' – 9550'	W, G & O
Navajo	9755' – 11507'	W, G & O	Navajo	9550' – 11250'	W, G & O
Chinle	11507' – 12081'	W	Chinle	11250' – 11500'	W
Moenkopi	12081' – 14680'				
Kaibab	14680' – 15259'	W, G & O			
Toroweap	15259' – 16200'	W			
Total Depth	16200'		Total Depth	11500'	

### **Pressure Control Equipment:**

A 10k multi-bowl casing spool, 10k single pipe ram BOP, 10k double ram pipe and CSO BOP, 5k annular preventer, and 5k rotating head will be utilized.

The BOPE will be tested as required per BLM Onshore Order 2.

Note: See attached BOPE diagram.

All BOPE was rated 5k and the single set of pipe rams was not included.

### **EXACT Engineering, Inc.**

www.exactengineering.com

20 East Fifth St., Suite 310, Tulsa, OK 74103

(918) 599-9400 • (918) 599-9401 (fax)

Steven R. Hash, P.E. Registered Professional Engineer stevehash@exactengineering.com

December 1, 2007

CONFIDENTIAL

Mr. Al McKee Bureau of Land Management Utah State Office P.O. Box 45155 Salt Lake City, UT 84145-0155

Mr. Dustin Doucet Utah Division of Oil, Gas & Mining 1594 West North Temple, Suite 1210 Salt Lake City, UT 84114-5801

Re:

Drilling Update #4 - Wolverine Federal Arapien Valley 24-1

Sec 24 T20S R01E Sanpete Co. UT API# 43-039-30030

Gentlemen.

On behalf of Wolverine Gas and Oil Company of Utah, LLC, please find enclosed daily drilling reports for the subject well from November 19 through November 30, 2007. We are presently drilling 12-1/4" hole in Arapien shale and lime at 5794 feet. The next regularly scheduled BOPE test is December 15, 2007. We respectfully request that the enclosed information on this exploratory well remain confidential.

Sincerely, Steven D. Had

Steven R. Hash, P.E.

**Enclosures** 

copy without enclosures via email to:

Wolverine Gas & Oil Co of Utah, LLC: Helene Bardolph EXACT Engineering, Inc.

well file

RECEIVED DEC 0 3 2007

OIV. OF OIL, GAS & MINING

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	ı	Engi	neerin	ıg a	and Su	pervis	ion			E	XAC	TEr	ngin	eerii	ng, l	Inc	<b>.</b>			(918	3) 59	9-940	0 offi	ice	
Ope		r: V	/olveri	ne (	Gas & (	Oil Co	of Ut	ah, LLC				/ DRI	LLIN						2	24 hrs -	· mid	Inight t	o mic	dnight	
11	/22/		Wo	lv F	ed Ara	pien V	/alle	y 24-1	CONTRA	CTO		#68		Sanp	STATE ete, UT	1	UD DATE 1/9/07		3-039	9-3003	0	SUPER		er Rel	asom
DAYS	F/ SPI 14	JD	PRESE	NT O	PERATION	is @ 2400 Drillir				TOT	TAL DEPTH 4,3		PROGRE		DRILLING 22.	G TIME	ROP			TD FORM	MATION	N		DEPTH	
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	BIT NO	SIZE	MFG.		TYPE	IADC	SE	ERIAL NO.	JETS 1		IN	OUT	FOOTAGE		ROP	MTR Y/N	RPM RT+MTR	WOB		00 00	L o	DULL GR			
4	3 ;	####	RTC	V142	49PDH	537	L	D6364	3x2		3682		640	49.00	13.06	Υ.	0/140	+	-	OR DO	LOC	C B/S	G/16	OC F	REASON PLD
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	_						=			HYD	RAULI	cs			1							SLOV	V PUI	MP PS	<u> </u>
PUN NO	- 1	MANU	FACTURE	:R	LINE		ROKE IGTH	GAL / STK	SPM	G	PM A	V DP AV	- F		TOR						PTH	424			
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2	+	Nat'l	10P13	0	6.0	1	0	3.486	111	3	87										2	30			
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	and the	2000000		D	RILLS	TRING			1 222		74	151   220	/176 28		LOGIC							CENI	- DAI	INFO	
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Filter		(0				8.36		9.875	3.00	$\dashv$			ICID	<i></i>						9338	dlogg sugle				979-6005 979-0544
12" s				_		5.41	_	3.000				CON		ENI	IAL	H	=PC	)H I				OP Test	:	400-5	11/15
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	IG WT.	_	8HA WT.	, <u>.</u>	PŲ V	NT.		O WT.	ROT, TOR	QUE	GRD, EL	EVATION	GL TO I	(B KB EI	EVATION	SURF	OSG	INT C	ASING			erate A	nnula		11/15 OD CSG
140	,000		49,000		159,	000	13	5,000			5,	554	26 URVEYS		5,580	13-3/	8@2017	(9-5/8"	@105	00) (	7-5/8'	"@1410	0)	(TD@	⊉16200)
MD	-	NCL.	AZIMUT	Н	TVD	N+/	/S-	E+ / W-	SECTION	DL	.s To	XXL M			итн		TVD		N+/S	- E+	/ W-	SECTI	ON	DLS	TOOL
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uaily	rota		24.00			er.	00	et se	AII P.		IN INC.	AFF : -	<b></b>									<u> </u>			
						⊃EE		21 DEL	AIL PAC	aE L	NDER	SEPARA	TE COV	ER FOR	ESTIM	ATEC	DRY	OLE (	COST	S					

		Engi	neerii	ng a	nd Su	ipervis	sion	1		E)	XAC	T Er	igine	erii	ng, I	nc				(918	3) 59	9-9400	offic	ce	
		or: V		ne (	Gas & (	Oil Co	of U	tah, LLC				/ DRI	LLIN			RT			:	24 hrs -	· mid	night to	mid	night	
DATE	1/23	3/07	WELL	lv F	ed Ara	apien \	/alle	y 24-1	CONTRA	ACTOR		#68		Sann	STATE ete, UT		UD DATE 1/9/07		3-03	9-3003	ın	SUPERVI		r Reb	eom
DAYS	F/ SF		PRESE	NT OF	PERATION	is @ 2400 Drillir				TOT	AL DEPTH	00	PROGRES	s	DRILLING	TIME	ROP		0 00	TD FORM	MATION	·   ^		DEPTH	
F			1			DIIIII	ıg			<u> </u>	4,6		UD DAT	01 A	23.	50		12.81		To	rowe	ар		16,2	00
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BIT	BIT	SIZE	MFG.	T	TYPE	IADC	S	ERIAL NO.	JETS	1/32	IN	OUT	FOOTAGE		ROP	MTR	RPM	Lwon							
RUN	NO		DT0	_		CODE	1		or TF	A		ļ	100	1100110	.10	Y/N	RT+MTR	WOB	IR	OR DO	LOC	DULL GRAD		OC RE	EASON PLD
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PU No	- 1	MAN	FACTUR	ER	LINE		ROKE NGTH	GAL / STK 95%	SPM	GI	РМ А	V DP AV	DC PU		TOR F PSI					_	EPTH	4522			
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3	3.5.5		PRIESS	(10.57)	PC 80808					-	<b>)</b>										3				
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вотто	ЭМ НС	LE ASSI	MBLY#	5		IGTH	$\vdash$	O.D.	I.D.	$\dashv$				GEO	LOGIC							GENE			
12 1	4 bit					1.50														Co	Man		G INFO		79-2202
Vert						36.02		9.875												1.5%	dlogg				79-6005
Filte				_		8.36	-	9.875	3.00	$\square$		COM	VFID.	FN7	TAI	RF	=PC	RT		Tod	olpus	her		435-9	79-0544
12" s Floa			ck sub	-		5.41 16.22	_	8.000 8.000		$\dashv$												OP Test			11/15
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6 - 6	1/2"	DC				179.99	(	6.500	2.75	_												DP Drill	ang		11/23
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3 - 5	" HV	/DP	TOT	- 4.1		89.58		5.000	3.25	5										La	st Op	erate Bl	ind F	łams	11/20
STR	ING W	т.	TOT BHA WT.			611.89 wt.		SO WT.	ROT. TOP	RQUE	GRD. E	LEVATION	GL TO K	B KBE	EVATION	SURF	CSG	INTO	ASING			erate Ar	nula		11/23 D CSG
15	1,00	0	49,000		163	,000	10	39,000	<u> </u>		5,	554	26		5,580	13-3/	8@2017	(9-5/8"	@105	500) (	(7-5/8	"@14100)		(TD@	16200)
Mi		INCL.	AZIMU`	тн	ΤVD	I N	-/S-	E+ / W-	SECTION	DL	s T	OOL N	URVEYS		шти		70.00								
							-	2	CECTION	- 00	.9	OOL W	ID INC	L. AZIV	107H		TVD		N+/	S- E+	/ W-	SECTIO	N	DLS	TOOL
FRO	M I	то	HRS			LAST 24 H	OUDO					DAIL	Y ACTIV	ΙΤΥ											
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15:	30	16:00	0.50									ud pumj	o-chang	e bow	wheel	side	swab	-held	Вор	drill r	espo	onse tir	ne 2	2 min	. 6 sec.
16:	$\neg$	0:00	8.00	)		Drlg 8	su	rvey 45	22' to	462	:3'														
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0:0				4		No ex	ces	sive dra	ag or f	ll or	n conn	ections.													
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		Eng	ineerir	ng a	and Su	pervis	sion						ngine							(918	3) 59:	9-940	) offi	ce	
Ope		or: \	Nolveri IWELL	ne (	Gas & (	Oil Co	of Uta	h, LLC	CONTRA		<b>IILY</b>	DRI	LLIN						2	4 hrs -	mid			inight	
11 DAYS	/24		Wo	lv F	ed Ara	apien V	/alley	24-1	CONTRA		SST	#68		Sanpa	state ete, UT		UD DATE 1/9/07	1	3-039	9-3003	0	SUPER		er Rel	osom
DATS	16		PRESE	NIO	PERATION	IS @ 2400 Drillir				TOTAL	DEPTH 4,9	70	PROGRES	s 47	DRILLIN					TD FORM	ATION	•		DEPTH	
	Ξ										.,,,,		UD DAT		20.	.50	<u> </u>	14.77		TOF	rowe	ар		16,2	200
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	-		1700			0.0	] 30	<u>,                                    </u>	,	21		14/20	50+	3	3.75	tr	10.3	200,	000	3,000	33	0,000			
	BIT NO	SIZE	MFG.		TYPE	IADC	SEF	RIAL NO.	JETS 1		ÍÑ	OUT	FOOTAGE		ROP	MTR	RPM	WOB		-		DULL GR	ADING		
4	3	####	RTC	M42	249PDH	537	LD	6364	3x2	-	3682	<del> </del> -	1288	96.00	13.42	Y/N Y.	0/140	28-40	IR	OR DC	LOC	B/\$	G/16	OC F	REASON PLD
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PUM	Р	MANI	UFACTURE	R	LINE	R STR	ROKE	GAL / STK	SPM	GPM			DC PU	мр мо	ror I					DE	PTH	SLOW 476	$\overline{}$	/IP PS	1
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Vertit	rak					36.02	9.	875												33.83	Man				79-2202
Filters	-	-				8.36	9.	875	3.00			COV	IFID.	ENIT	771	DI		DT		9999	dlogg Ipust				79-6005 79-0544
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6-6				$\exists$		179.99		500	2.75	_												ety Me	eting		11/24
		OP/	Jar			93.21	5.0	000	3.25	_												P Drill erate P	ine R	ams	11/23
3 - 5"	HW	DP				89.58	5.0	000	3.25													erate B	<del></del>		11/20
STRIN	G WT		TOT. BHA WT.	AL	PU V	611.89 wt.	so	WT.	ROT, TORG	QUE	GRD. ELI	EVATION	GL TO K	3 KB EL	EVATION	SURF	sg I	INT CA	ASING 1			erate A	nnula		11/23
155	,000		49,000		167,	000	143	,000			5,5	54	26		,580			(9-5/8"(				@14100	))		)16200)
MD	1	NCL.	AZIMUT	Ĥ I	TVD	N+/	S-	E+/W- :	SECTION	DLS	To		JRVEYS	. AZIMI	mu l		TVD								
	_			_			$\Box$							7.55			140		N+/S	E+/	VV-	SECTION	JN (	DLS	TOOL
===														<u> Т</u>											
FROM	T	то	HRS	T		AST 24 HC	OURS:					DAIL	Y ACTIV	ΤY											
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12:30	_	3:00	0.50	_		Service	e rig-	top dr	ive-rep 64' to 4	oair #	2 mu	d pump	-chang	e bow	wheel	side	swab								
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Daily	Tota		24.00	$\perp$																					
				_		SEE	cos	T DET	IL PAG	E UN	DER S	SEPARA	TE COVE	R FOR	ESTIM	ATED	DRY H	OLE C	OST						

		Engi	neering	and Su	pervis	ion		E	XAC	T Er	ngine	eerii	ng, I	nc				(918	3) 59:	9-940	0 offi	ce	
_	rato		olverine	Gas & C	Dil Co c	f Utah,	LLC		DAIL'	Y DRI		G RI	EPO				2	24 hrs	- mid	night 1	o mic	Inight	
	/25/	07	Well Wolv I	Fed Ara	pien V	alley 24	·†	CONTRACTO		Г#68	•	Sanpa	STATE ete, UT	1	UD DATE 1/9/07		3-039	9-3003	3O	SUPER		er Reb	com
DAYS	F/ SPL	D	PRESENT O	Wash 8	-		01	TO	TAL DEPTH		PROGRES	55 55	DRILLING			2.92		TD FOR	MATION			DEPTH	
									0,1		IUD DAT		12.	00		2.92		10	rowe	ар		16,20	Ю
DAT 1/25	E/TIME		DEPTH 5061		vT  .4+	vis 36	P\ 7		P	GELS	FILTRATE	<del> </del>	<del></del>	SAND	PH	CHLO		CALCIU		SALT	LCM		
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	NO NO	SIZE	MFG.	TYPE	IADC CODE	SERIAL	NO.	JETS 1/32 or TFA	IN	OUT	FOOTAGE	-	ROP	MTR Y/N	RPM	WOB				DULL GF			
	-	####	RTC M4	249PDH	537	LD63	64	3x28	3682	5125	1443	108.00	13.36	Y/N Y.	0/140	28-40	3.0	OR D		B/S E	G/16 In		ason PLD
5	4	####	RTC IH	P53DGI	537	EB45	62	1X28-2X3	2 5125		0	0.00	#DIV/0!	Y.	0/152	5-8							aming
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PUM	Р	MANU	FACTURER	LINEF	R STR	OKE GAL	/ STK	SPM	GPM A	AV DP A	V DC PU	ІМР МО	TOR	_				D	EPTH	470		VIF F3I	
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вотто	M HOI	F ASSE	a colodio															0.000				INFO	
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12" s Float			ck sub	.,		- <i>.</i>		ı	_		P Tes			11/15									
6 - 8"			on odo		16.22 181.60	8.00	-	3.00	1											OP Tes			12/15 11/25
6 - 6	1/2"	DC			179.99	6.500	)	2.75												P Drill			11/23
		OP / J	ar	<u> </u>	93.21	5.000	-	3.25	1									La	st Op	erate l	Pipe F	Rams	11/23
3 - 5"	TIVV	DP.	TOTAL	<del> </del> -	89.58 611.97	5.000		3.25	1											erate I			11/25
STRIN		<del></del>	BHA WT.	PUV	ŴΤ.	SO WT		ROT. TORQUE	1	LEVATION	GL TO F	KB KB EI	EVATION	SURF	csg	INTC	ASING			erate /			11/23 csg
157	,000		49,000	168,	,000 [	145,00	00 [		5	,554	URVEYS		5,580	13-3/	8@2017	(9-5/8"	@105	00)	(7-5/8'	@1410	0)	(TD@	16200)
MD	1	NCL.	AZIMUTH	TVD	N+/	'S- E+/	W- !	SECTION	DLS T		ID INC		HTU		TVD		N+/5	S- E-	- / W-	SECT	ION	DLS	TOOL
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0:00		00:00	2.00	<del>                                     </del>	wasn Wash	& rean & rean	1 25:	58' to 32 h 2600 j	201'- ho	le sluttir	1g exce	ss amo	ount of	thun	nb size	cutti	ng &	flake	s of	runni	ng sh	nale	
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0:00																							
Daily	Tota	u L	24.00	L																			
					SEE	COST	DET/	AIL PAGE	UNDEF	SEPAR	ATE COV	ER FOR	ESTIM	ÂTEI	DRY F	OLE	cos	rs					

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Ope		or: V	Volveri IWELL	ne (	Gas & C	Oil Co d	of Utah	, LLC			<b>AILY</b>	DRI	LLIN						2			idnight			t
11	/26		Wo		ed Ara			24-1	CONTRA		SST	#68		Sanp	STATE ete, UT	1	UD DATE 1/9/07	1	3-039	9-300:	30	1	RVISOR		bsom
DAYS	f/SP 18		PRESE	NT OF	PERATION	s @ 2400 Drillir				TOTA	5,3	10	PROGRES		DRILLING	3 TIME	ROP	-		TD FOR	MATIC	ON		. DEPTI	1
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	-	-	0140				41	<u></u>	9	29		17/22	60+	3	3.50	tr	10.4	200,	000	3,100	3   3	330,000	<u> </u>	<u> </u>	
	BIT NO	SIZE	MFG.		TYPE	CODE	SERIA	L NO.	JETS 1		IN	OUT	FOOTAGE		ROP	MTR		WOB				DULL GF	RADING		
4	3	####	RTC	M42	49PDH	537	LD6	364	3x2	_	3682	5125	1443	108.00	13.36	Y/N Y.	0/140	28-40		OR D		DC B/S	G/16 In	<del>                                     </del>	REASON PLD
5	4	####	RTC	ИΗР	53DGI	537	EB4	562	1X28-2	X32	5125		185	18.00	10.28	Y.	0/152	<del> </del>	_		+	1	"'	<del>                                     </del>	naie
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2- 5" l	-WI	DP / J	lar			93.21	5.00		3.25	$\neg$												OP Drill perate f		2ama	11/23
3 - 5"	HW	DP		4		89.58	5.00	00	3.25											· ·		perate E	<u> </u>		11/23
STRIN	G WT		TOT.	AL	PÚ V	S11.97 vт.	SO W	n.	ROT. TORG	QUE	GRD. ELI	VATION	GL TO K	3 Tre ci	EVATION I	SURF (	<del></del>	INT	ASING 1			perate /			11/23
159	000		49,000		170,0	000	147,0	000		工	5,5		26		,580		3@2017					CASING 2 8"@1410	$\overline{}$		OD CSG @16200)
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	Ĭ		AZIMOT		140	N+/3	S- E+	/W-	SECTION	DLS	TO	OL M	D INC	AZIM	JTH		TVD		N+/S	- E+	/W-	SECT	ION	DLS	TOOL
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4:30	_	5:30	1.00	_		JIC. 8	וממ ט.	High	I VIS SV	veep	98 vi	s. Arou	nd circ.	Hole o	lean		шрт	11 721	0 10	3004	- 1	eam 5	004	10 5	123-20
5:30 10:30		0:30 1:00	5.00	_					25' to 5	167						·									
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0:00	士			_	N	fixed (	3-80 b	bl hi	gh vis	swee	ep 90	vis - sv	veep ho	le @ 5	125'-5	148'	5206'			-			<del></del>		
0:00	T	$\Box$			V	ery fe	w extr	a cu	tting c	ame	back	with las	st swee	0 @ 52	96'								·		
0:00	+	$\dashv$		+	<u> </u>	utting	over	shak	er are	norn	nal ex	cept fo	r very fe	w flak	es fron	n rur	ning s	hale.			_				
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	Eng	gineering	and Super	/ision			EX/	AC	ΓEr	ngine	erii	ng, l	nc				(91	8) 5	99-94	00 off	ice	
	tor:		Gas & Oil C	o of Ut	ah, LLC		DA			LLIN	G RI	EPO	RT			:	24 hrs	- mi	idnight		•	
DATE 11/2	7/07	WELL	Fed Arapier	valle	v 24-1	CONTRA		SST#	‡68		Sann	STATE ete. UT	.	UD DATE 1/9/07	API#	3-036	9-300	เรบ	SUPE	RVISOR	er Reb	eom
DAYS F/			OPERATIONS @ 2	100 Hour		<u> </u>	TOTAL D			PROGRES		DRILLING				3 00.	TD FOR		ON		. DEPTH	50111
1	9		Dri	lling			<u> </u>	5,53		<del></del>	24	22.	50	ļ	9.96		Τ	orow	/eap		16,2	00
DATE/	IME T	DEPTH	WT	Ιv	IS F	ov I	YP	_	QELS	FILTRATE		SOLIDS	ISAND	I Du	Louison	NDC0				Lau		
1/27-6	-	5375	10.5			1	29	+	7/22	60+	3	3.75	tr	PH 10.3	CHLOF		3,10		SALT 330,000	LCM		
				<b>-</b>						BIT DATA	·····					000	0,10		300,000	<u> </u>		
BIT BIT	SIZE	MFG.	TYPE IAD		RIAL NO.	JETS 1		IN .	OUT	FOOTAGE	HOURS	ROP	MTR Y/N	RPM	WOB	<u> </u>	1001	20 II.		RADING		
5 4	###	# RTC //H			B4562	1X28-2		125		409	40.50	10.10	Υ.	0/140	20-35	IR	OR I	DC LC	OC B/S	G/16	OC R	EASON PLD
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L_	<u> </u>	1		l						<u> </u>		#DIV/0!										
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PUMP NO.	MA	NUFACTURER		STROKE LENGTH	GAL / STK 95%	SPM	GPM	AV	DP A	V DC PU		TOR					L	DEPTH	- J	167		ļ
1	Na	t'l 10P130	6.0	10	3.486	100	349			PRE	SS. DIF	F PSI		-312000				SPM 1		60 355	-	┼
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						200	697	13	7 198	8/158 27	25	75					8					
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		SEMBLY# 6			O.D.	I.D.	_													RIG IN	FO	
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6 - 8" E	C / X	)	181.	60 8	3.000	3.00	)										-		Safety N		g	11/27
6 - 6 1/			179.	99 (	5.500	2.75	5										L	ast E	3OP Dr	itl	-	11/23
2- 5" H		/ Jar	93.	_	5.000	3.25	- 1.000										L	ast C	Operate	Pipe	Rams	11/23
3 - 5" F	WDP	TOTA	89. - 611.	0.000	5.000	3.25	5												Operate			11/25
STRING	WT.	BHA WT.	PU WT.		SO WT.	ROT. TOP	RQUE G	RD. ELE	VATION	GLTOK	В КВЕ	LEVATION	SURF	CSG	INTC	ASING			Operate IT CASING			11/23 DD CSG
163,0	00	49,000	175,000	15	50,000	L		5,5	54	26	i	5,580	13-3/	8@2017	(9-5/8"	@105	500)	(7-5	/8"@14	100)	(TD(	<b>2</b> 16200)
MD	INCL	. AZIMUTH	TVD	N+/S-	E+ / W-	SECTION		T 70		URVEYS			,									
	1100	, ALIMOTTI	1 10	144/5"	C+7 VY-	SECTION	DLS	TO		MD INC	L. AZII	MUTH	-	TVD		N+/	/S-	E+ / W-	- SEC	CTION	DLS	TOOL
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0:00	_	ļ	Ver	/ few	extra c	utting	came	back	with la	ast swee	p @ 5	525'				_						
0:00	-	-	Cutt	ing ov	er sha	ker ar	e norm	nal ex	cept f	or very t	ew fla	kes fro	m ru	nning	shale							
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0:00			554	5' @ (	0430 H	our trip	out to	o cha	inge oi	ut Vertit	rak & d	change	bit t	o PDC	. Sta	rted	trip o	out @	@ 023	0 ho	ır.	
0:00	匚																				<del></del>	
Daily T	otal	24.00																				(+1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-

SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS

	E	ngir	neerin	g a	ınd Su	pervis	ion			E	XAC	CT E	ngine	erir	ng, I	nc	,			(-	918)	599	9-940	0 offi	ce	
	ator:			ne C	Gas & (	Oil Co c	of Uta	ah, LLC		D	AIL'	Y DR								24 h	ırs - ı	nidn	night t	o mic	 Inigh	ıt
DATE 11/	28/0	ŀ	WELL WOI	νF	ed Ara	ıpien V	allev	 / 24-1	CONTRA	ACTOF		Г#68		COUNTY,	STATE ete, UT	1	UD DATE 1/9/07	1	2.02	0.20	0030	- 1	SUPER			h
DAYS F	SPUD		PRESEN	IT OF	PERATION	S @ 2400	Hour		1	ТОТ	AL DEPT	1	PROGRES	SS	DRILLING	3 TIME		1 40	3-03		FORMA		F	AUTH.		ebsom H
	20			_		Drillin	g			<u>L_</u>	5,	591		57	10.	00	L	5.70		L	Torc	wea	ар		16,	200
DATE	TIME	7	DEPTH		٧	VT	VI	S P	V	ΥP		GELS	IUD DAT		SOLIDS	SANE	PH	CHLOF	RIDES	CAL	LCIUM	S.	ALT	LCM		
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BIT 8		IZΕ	MFG.	-	TYPE	IADC	SE	RIAL NO.	JETS	1/32	IN	OUT	FOOTAGE		ROP	MTR	RPM	WOB					OULL GR	ADING		
RUN N		###	RTC /	IHP	53DGI	CODE 537	F	B4562	or TF		E10E	EFAF	100	40.00		Y/N	RT+MTR	<b> </b>	IR	OR	_	LOC	B/S	G/16	-	REASON PLD
6 !	-	-	lycalo			337	_	2179	8x1	_	5125 5545		420 51	42.00 8.50	10.00 6.00	Y. Y.	0/140			2	WT	Α	E	ln	_{	Change Ver
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Щ.	上														#DIV/0!	<u> </u>										
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NO.		.,	71010112		CIVE	LEN	- 1	95%	SPM	G	PM	AV DP A	V DC PU	1	FPSI						DEP		554 60			
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воттом 12 14		ASSE	MBLY#	7	LEN	дтн 1.50		O.D.	I.D.															RIG INF		
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Filters	ıb/XC	2				8.36	9	.875	3.00	)		COI	VFID.	<b>E</b> NIT	771	ום		הח			Mudl Tool					·979-6005 ·979-0544
12" sta				4		5.41		.000		_		<u> </u>	VI IU		IAL	n i	= PC	ן אי					P Tes	1		11/15
Float s 6 - 8" l			ck sub	+		16.22 181.60		.000 .000	3.00	$\dashv$													P Tes			12/15
6-61						179.99		.500	2.75	-													ety Me P Drill	eting		11/28
2- 5" F			ar	$\Box$		93.21	5.	.000	3.25	5													erate F	Pipe R	łams	
3 - 5" I	IWDI	<u> </u>	TOTA	,		89.58 611.90	5.	.000	3.25	5											Last	Оре	erate E	Blind F	₹ams	11/28
STRING			BHA WT.	1	PU V	NT.	SC	O WT.	ROT. TOP	RQUE	GRD. E	LEVATION	GL TO K	B KB EL	EVATION	SURF	CSG	INT C	ASING	1			erate /	Innula		11/23 ROD CSG
168,	000	4	19,000	_	178,	000	150	3,000			5	,554	26		,580	13-3/	8@2017	(9-5/8"(	@105	(00	(7-	5/8"@	@1410	0)	(TD	@16200)
MD	INC	CL.	AZIMUTI	1	TVD	N+/	S-	E+ / W-	SECTION	DL	S T		URVEYS		нти		TVD		N+/	s- [	E+ /\	N-	SECTI	on I	DLS	TOOL
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7:00	8:3	30	1.50		/	Nork b	olind	ls rams				rak-bit														
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#### NOTICE

Utah Oil and Gas Conservation General Rule R649-3-21 states that,

- A well is considered completed when the well has been adequately worked to be capable of producing oil or gas or when well testing as required by the division is concluded.
- Within 30 days after the completion or plugging of a well, the following shall be filed:
  - · Form 8, Well Completion or Recompletion Report and Log
  - · A copy of electric and radioactivity logs, if run
  - · A copy of drillstem test reports,
  - A copy of formation water analyses, porosity, permeability or fluid saturation determinations
  - A copy of core analyses, and lithologic logs or sample descriptions if compiled
  - A copy of directional, deviation, and/or measurement-while-drilling survey for each horizontal well

Failure to submit reports in a timely manner will result in the issuance of a Notice of Violation by the Division of Oil, Gas and Mining, and may result in the Division pursuing enforcement action as outlined in Rule R649-10, Administrative Procedures, and Section 40-6-11 of the Utah Code.

As of the mailing of this notice, the division has not received the required reports for Operator: Wolverine Gas & Oil Co UT 02/14/2008 Today's Date: Well: API Number: **Drilling Commenced:** 4304130047 06/16/2007 Wolverine Fed 17-8 drlg rpts/wcr 4304130049 06/16/2007 Wolverine Fed 17-9 drla rpts/wcr Wov Fed Arapien Vly 24-1 drlg rpts/wcr 4303930030 10/03/2007 205 IF

To avoid compliance action, required reports should be mailed within 7 business days to:

Utah Division of Oil, Gas and Mining

1594 West North Temple, Suite 1210

P.O. Box 145801

Salt Lake City, Utah 84114-5801

If you have questions or concerns regarding this matter, please call (801) 538-5284.

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	26/08	8_	WELL Wolv F				y 24-	- 1	CONTRAC		SST	#68			ete, UT	1	UD DATE 1/9/07	ļ	3-03	9-300		Ī		ylor		Rebsom
DAYS	/ SPUD <b>79</b>	- 1	PRESENT O	PERATION	IS @ 2400	Hour				TOTA	L DEPTH 10,9	31	PROGRES	30	DRILLING			8.39		TD FOR		non vear	- 1	UTH.	DEPTH 16,2	00
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	/TIME /8:am	T	DEPTH 10853		NT 3,4	V 5	IS 7	PV 19		ΥP 24		GELS 10/13	FILTRATE 8.0	CAKE/32	SOLIDS 1.00	SAND	10.0	10,2		GALCII 340		ŞA	LT LC	M		
1/20	o.am		10000			1 3		19	<u>' L</u>	24			IT DATA	<u> </u>	1.00	1	10.0	10,2	200	340						
	IT SI	SIŻE	MFG.	TYPE	IADC	SE	RIAL NO	Э.	JETS 1/2 or TFA	•	IN	OUT	FOOTAGE	HOURS	ROP	MTR Y/N	RPM RT+MTR	WOB	İR	OR I	oc II		B/S C		OC I B	EASON PLD
-		500	STC H3	OODVP	537H	Р	G268	2	3x12	_	10390	10670	280	21.50	13.02	Y	0-70	28	4.0	_		_	4/E	_		ND quit
24 2	0 8.5	500	STC H3	5ODVP	547H	P	F9138	В	3x13	-	10670	ļ	261	34.00		ΙΥ	0-70	20-35		$\vdash \downarrow$	4	4	_	_	_	
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Ë			,						F	ΙΥD	RAULIC	s	,									-	SLOW	PUN	IP PS	
PUM	·   ·	MANUI	FACTURER	LINE		ROKE	GAL/S		SPM	GP	M A	DP AV	- 1		OTOR						DEPT		10816	5		
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вотто	/ HOLE	ASSE			IGTH	T	O.D.		I.D.					<u> </u>	JEOGIC									G INF		
8 1/2					1.00	-	8.500	_													o Ma					79-2202
Vertit Float	rak (m sub	notor	.)	-	30.80 2.45		7.063 6.750	-	2.81	$\dashv$					T.A.			<u> </u>	1	8000		ogge oushe				79-6005 79-0544
Filter					5.16	-	6.375		3.00	-		CON	VI-ID	EN	IIAL	H	EPC	)H I	]	( i i i i i i i i i i i i i i i i i i i	<del>-</del>		o. P Test		-100	1/22
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26 - 5 Jar	" spira	al wt	•	<del> </del>	795.40 32.62	<del></del>	5.000 6.500	$\dashv$	3.00 2.75	-													ety Mee	ting		1/22
	spiral	wt			120.95		5.000		3.00														rate Pi	pe F	Rams	1/22
						335333		840-836		3338												···	erate Bl			1/22
STRII	IG WT.		TOTAL BHA WT.		998.86 WT.		SO WT.		ROT. TOR	QUE	GRD. E	LEVATION	GL TO	кв кв	ELEVATION	SURF	CSG	INT	CASING				erate Ar ASING 2	nula		1/22 00 CSG
2	50		48	2	65	<u> </u>	245				5,	554	26		5,580	13-3	/8@2017	9-5/8	<b>"</b> @10	372	(7-	5/8"@	@14100		(TD(	@16200)
MD	IN	NCL.	AZIMUTH	TVD		I+/S-	E+/\	N-	SECTION	DL	S To		URVEY:		IMUTH	T	TVD		N+	/S-	E+/W	V	SECTIO	N	DLS	TOOL
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8:0	_	:00	1.00					ho	e. Had	to	pump	& wash	to 105	40												
9:0 9:3		0:00	0.50 0.50	<del> </del>	Rig s																					-
10:0		5:00	5.00		W&F	105	550 t					ming 10				d up	thu w/	5k o	verp	ull, th	nen	rea	m w/	0k		
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		Engi	neerin	ng an	nd Su	pervis	ion			E)		T En	gine	erii	ոց, I	nc				(918	3) 59	9-940	0 offi	ice	
		or: W		ne Ga	as & C	Oil Co c	of Uta	h, LLC				DRI	LLIN						:	24 hrs	· mid			dnigh	t
DAT		/00	WELL	h. Ea	ما ۸ دم	nion V	allou	24.1	CONTRAC	CTOR		<b>400</b>		COUNTY,		i .	UD DATE	l	2.00	2000		1	RVISOR	- 00	Dahaam
	1/27 S F/ SP					pien V s @ 2400		24-1	<u> </u>	TOTA	SST AL DEPTH	#00	PROGRES		ete, UT		1/9/07 ROP	4,	3-03	9-3003 TD FORM				DEPT	Rebsom
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1/4	27/8:a	an j	1102			.5	00	,	3	31		12/17	IT DATA		1.50	<u> "</u>	10.0	12,5	000	360					
BIT	BIT	SIZE	MFG.	TY	PE	IADC	SER	RIAL NO.	JETS 1/	32	iN	OUT		HOURS	ROP	MTR	RPM	WOB				DULL G	RADING		
RUN	NO :	0.500	0.70		201/10	CODE	-	20000	or TFA	-	10000	10070		04.50		Y/N	RT+MTR	-	IR .	OR DO	_		G/16	-	REASON PLD
23 24	19 20	8.500			DDVP	537H 547H	-	9138	3x12	_	10390	10670	280 505	21.50 58.00	13.02 8.71	Y	0-70 0-70	28 20-35	4.0	5 W	T A	4/E	-	RIII	//WD quit
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	2" bi					1.00		.500												Co	Mar	າ			-979-2202
Ver	titrak	(moto	r)			30.80	7.	.063												Mι	ıdlog	ger		435	-979-6005
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-	ock s			_		10.48	+	.625	2.00	1												OP Te			2/21
_		piral w	t.	-		795.40	-	.000	3.00													afety N		3	1/22
Jar 4		iral wt		+		32.62 120.95	+	.500	2.75 3.00	_												OP Dri perate		Rame	1/22
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ST	RING V	VT,	BHA W			WT.	+	O WT.	ROT. TOR	QUE		EVATION	GL TO	кв кв	LEVATION			†	CASING			CASING		-	PRODICSG
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	Engi	neering	g and Su	pervis	sion			E)	(AC	T En	gine	erir	ng, I	nc	•			(918	r) 59	99-940	00 offi	ice	
	tor: V		e Gas & (	Oil Co	of Ut	ah, LLC				DRII	LLIN						:	24 hrs -	mic			dnigh	ì .
DATE 01/2	8/08	WELL Wolv	Fed Ara	nien \	/alle	v 24-1	CONTRAC	CTOR	SST	#68		COUNTY,	state ete, UT		UD DATE 1/9/07		3-039	9-3003	n	1	RVISOR Navio	r- BD	Rebsom
DAYS F/		PRESENT	OPERATION			7 - 1 - 1		TOT	AL DEPTH	,,,,,	PROGRES	S	DRILLING			<u> </u>	3 00.	TD FORM				DEPTH	
	1	TIH							11,3		L	36	14.0	00		9.71		То	rowe	eap	Щ	16,	200
DATE/	IME	DEPTH		ΝT	ΤV	IS F	v	ΥP		GELS	UD DATA		SOLIDS	SAND	РН	CHLOF	RIDES	CALCIU	<i>/</i>	SALT	LCM	Ι	
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											IT DATA	-											
BIT BI'		MFG.	TYPE	IADC CODE	SE	RIAL NO.	JETS 1/		IN	OUT	FOOTAGE	HOURS	ROP	MTR Y/N	RPM RT+MTR	WOB	İR	OR DO	LO		G/16	oc I	REASON PLD
23 19	8.500	STC F	130ODVP	537H	Р	G2682	3x12	2	10390	10670	280	21.50	13.02	Υ	0-70	28	4.0	5 W	_		1	_	1WD quit
24 20	+		135ODVP	547H	Р	F9138	3x13	3	10670	11311	641	74.00	8.66	Υ	0-70	20-35	3.0	4 W	TΑ	3/E		N F	ress loss
25 21	8.500	RTC F	IP53ADH	537	K	P2170	3x12,1	x16	11311				#DIV/0!			<u> </u>		$\vdash$	+	<del> </del>		$\vdash$	
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PUMP	I MANE	JFAÇTUREF	R LINE	в ет	ROKE	GAL / STK	SPM				DC PU	мр мо	TOR					D	EPTH	<del></del>	192	MP P	) 
NO.	IVIANU	JFACTURE!	LINE		NGTH	95%	SPIVI	G	-M A	AV	PRE		F PSI	_					SPM	-	65		
1	Nat'	10P130	5.5	5	10	2.94	120	3	53										1	7	00		
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BOTTOM	HOLE ASS	EMBLY#	DRILL S	NGTH	<u> </u>	O.D.	I.D.					GEC	LUGIC			0.5000				GE	NERA RIG IN		J
8 1/2"		LINGE III		1.00		8.500	1											Co	Mai	n	11101111		979-2202
Vertitra	k (moto	r)		30.80	)	7.063												Mu	ıdlog	gger		435	979-6005
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Filter s				5.16	-	6.375	3.00			<u> </u>	•••••		<i>,,</i> ,—	0000000	_, _		J	(8) (8) ·····		OP Te			1/22
Shock				10.48	-	6.625	3.00													SOP Te			2/21
26 - 5 Jar	spiral w	١.	_	795.40 32.62	-	5.000 6.500	2.75											3000		afety N OP Dr		<u> </u>	1/28
	piral wt		$\top$	120.95	-	5.000	3.00													perate		Rams	
																		La	ıst O	perate	Blind	Rams	1/28
STRING	WT I	TOT		998.86 WT.		SO WT.	ROT. TOR	OUE	GPD E	EVATION	GL TO	ve Tve s	LEVATION	SURF	cec	I ONT	CASING			perate			1/28 ROD CSG
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	Engi	neering	and Su	pervis	ion		E	EΧ	AC	T En	gine	eerii	ng, I	nc	-			(918	) 59	9-94	00 off	ice	
	or: W	olverine/	Gas & (	Oil Co d	of Uta	ah, LLC			ILY	DRI	LLIN						2	24 hrs -	mic			dnight	
DATE 01/29			Fed Ara			y 24-1	CONTRACT		SST	#68			ete, UT	1.	UD DATE 1/9/07	1	3-03	9-3003		DL			Rebsom
DAYS F/ SI		PRESENT	PERATION	iS @ 2400	Hour			TOTAL D	11,3	21	PROGRES	s 10	DRILLING		1	10.00		TD FORM	OW6		AUTH	DEPTH 16,2	200
							<u>l</u>				UD DAT		1			10.00				- Jup		10,1	.00
DATE/TIM		DEPTH		VΤ	VI			YP	-	GELS	FILTRATE		SOLIDS	SAND	<del> </del>	CHLOF		CALCIUM	٩	SALT	LCM		
1/29/7:	am [	11242	8.	.4+	5	4   1	5	20		9/14	8.0	1	1.50	tr	10.2	17,8	300	400					
BIT BIT	SIZE	MFG.	TYPE	IADC	SE	RIAL NO.	JETS 1/3	2	IN	OUT	FOOTAGE		ROP	MTR	RPM	WOB		100 T 00	Tr o		GRADING	1001	
RUN NO 23 19	8.500	STC H3	0ODVP	537H	P	G2682	or TFA 3x12	1	0390	10670	280	21.50	13.02	Y/N Y	0-70	28	4.0	OR DO	LO F A			-	WD quit
24 20	8.500	STC H	5ODVP		+	F9138	3x13	1	0670	11311	641	74.00	8.66	Υ	0-70	20-35	3.0	4 W	ГΑ			-	ress loss
25 21		RTC HI				P2170	3x12,1x		1311		10	1.00	10.00	Y	0-70	28	0.0	0 N	Α	0/E	<u> </u>	NM	WD quit
26 21	8.500	RTC H	253ADH	537	<u> K</u>	P2170	3x12,1x		1311 AULIC	<u>'e</u>	<u> </u>	<u> </u>	#DIV/0!	<u></u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u>                                     </u>	J SW PU	UD DO	<u> </u>
PUMP	MANI	JFACTURER	LINE	R STE	ROKE	GAL/STK	SPM	GPM			DC PL	ЈМР МС	TOR					D	PTH	_	1192	WIP PS	)
NO.		, rio i dileti			VGTH	95%							F PSI	8.8		crecorrecco			РМ		65		
1	<del> </del>	10P130	5.5		10	2.94	120	353	4									<b>-</b>	1	<del></del>	700		
3	Nat	10P130	5.5	<u> </u>	10	2.94	0	0	-									-	3	+-	700		
							120	353	1	48 1	48 18	300 2	00			.00000 2000	2000.00.00						
			DRILL S	TRING								GEC	LOGIC							GE	NERA	LINFO	5
BOTTOM H		EMBLY# 2	B LEN	VGTH	<u> </u>	O.D.	I,D,	-										_	Mar		RIG IN		070 0000
8 1/2" bi M1x-p/ls		1.3	<del> </del>	1.00 23.54	<del></del>	8.500 6.500	<u> </u>	-										8839	Mar dlog				979-2202 979-6005
MWD/				38.50	+	6.500	3.38			CON	IEID	ENI	ΓΙΔΙ	D		דםו	1		_	sher			979-0544
хо				2.62	+	6.500	2.88	_			עו ווי	LIVI	<i>17</i> \L	111	_/ C	/	J	- 10 A		OP T			1/22
Filtersut Filtersut			-	5.58 5.16		6.688 6.375	3.00	-												SOP T	est Meeting		2/21 1/29
26 spira				795.40	-	5.000	3.00	-										8888		OP D		<u> </u>	1/29
jar				32.62	1	6.500	2.75											La	st O	perate	e Pipe	Rams	1/29
4 spiral	wt.		<b></b>	120.95	200000	5.000	3.00														e Blind		1/29
STRING	NT.	TOTA BHA WT.		,025.37 wт.		SO WT.	ROT. TORC	UE	GRD. EL	EVATION	GL TO	кв кве	LEVATION	SURF	CSG	INT	CASING			perate CASING	e Annu G2		1/29 ROD CSG
258		48	2	85	<u></u>	250	<u> </u>	<u> </u>	5,	554	26		5,580	13-3	/8@2017	9-5/8	<u>"@10</u> :	372	(7-5/	8"@14	100)	(TD	@16200)
MD	INCL.	AZIMUTH	TVD	IN	+/S-	E+/W-	SECTION	DLS	Ιτα		URVEY		митн	7	TVD		N+	/S- E-	- / W-	ŞE	CTION	DLS	TOOL
			<u> </u>									i								<u> </u>		<u> </u>	
FROM	то	HRS	1	LAST 24 I	HOURS	S:				DAIL	Y ACTI	VITY	, i										
0:00	5:00	5.00		TIH to																			
5:00	6:30	1.50	<del> </del>			5' to bt																	
6:30 7:30	7:30 8:00	1.00 0.50	<del> </del>				lwd & n	noto	r quit					·									
8:00	10:30			Circ&	cor	ndition,	had sw				to circ	out, ret	urns fr	om s	sweep	minin	nal.						
10:30	17:00		_			r tool f	ailure																
17:00 18:00	18:00 19:30		┼	LD ve		ak ng line												***************************************				******	····
19:30	20:00					test Bo	OP																
20:00	23:00						s. w/ga	mma	ı, RU	surfac	e equip	ment.											
23:00	0:00	1.00	┼	TIH to	est l	MWD				:													
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Daily T	otal	24.00	<u> </u>																				
1				S	EE C	OST DE	TAIL PA	GEU	NDEF	SEPAR	ATE CO	VER FC	R EST	MATE	D DRY	HOLE	COS	5TS -		_			

	Engi	neering a	and Su	pervis	ion			EX	AC	ΤЕ	n	gine	eri	ng,	Inc	) <u>.</u>			(91	8) 59	9-940	0 offi	ce	
	or: V	olverine	Gas & (	Oil Co o	of Uta	ah, LLC			AILY	/ DR	:IIL	LIN						2	24 hrs	- mic	inight		Inight	
01/30		WELL Wolv F				/ 24-1	CONTRA		SST	#68				ete, U	T _ 1	1/9/07	1	3-039	9-3003	30	1			Rebsom
DAYS F/ SF		PRESENT O	PERATION	S @ 2400 I	Hour			TOTA	L DEPTH	1/1		PROGRES	s 20	1	.50	ROP	7.27		TD FOR	MATION		AUTH.	DEPTH 16,2	200
		Drining						<u> </u>	11,4		MU	D DAT		1 10	.50	<u> </u>	1.21		10	TOWE	zap	<u> </u>	10,2	.00
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1/30/8:30	Dam	11329	8	1.5	62	2   19	9	24		11/16		9.2	1	2.00	tr	10.4	18,	200	440			L		
BIT BIT	SIZE	MFG.	TYPE	IADC	SEI	RIAL NO.	JETS 1		IN	OUT		T DATA FOOTAGE		ROP	MTA		WOB				DULL G			
RUN NO 26 21	8.500	RTC HP	53ADH	CODE 537	K	P2170	or TF.		11311	-	$\dashv$	130	17.50	7.43	Y/N Y	30-70	24	iR	OR D	C LO	C B/S	G/16	OC F	REASON PLD
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PUMP	MANI	JFACTURER	LINE	R STR	ROKE	GAL/STK	SPM	GP	A AULIC		AV C	oc Pui	MP M	OTOR						EPTH	-	W PUI	MP PS	1
NO.		A NO TOTILL			IGTH	95%						PRE		FF PSI	/160000000mm	noverskoonskoon	*************			SPM		5		
1		10P130	5.5		0	2.94	120	35												1		00		
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XO			ļ	2.62		5.500	2.88				' / V	. ID	<i></i>	<i>                                     </i>	- / 1	<i>∟,</i>	/	j			OP Tes			1/22
Filtersub Filtersub			<del> </del>	5.58 5.16		6.688 6.375	3.00														OP Te afety M			2/21 1/29
26 spira		·	<u> </u>	795.40		5.000	3.00														OP Dri			1/29
jar				32.62	6	5.500	2.75												L	ast O	perate	Pipe I	Rams	1/29
4 spiral	wt.	TOTAL	<del>                                     </del>	120.95 .025.37	5	5.000	3.00	)													perate perate			1/29
STRING V	VT.	BHA WT.	PU	WT.		SO WT.	ROT. TOP	RQUE	GRD. E	LEVATION	<u>'</u>	GL TO F	КВ КВ	ELEVATIO		CSG		CASING	1	INT	CASING	2	PF	OD CSG
258		48	2	85	<u></u>	250	<u> </u>		5	,554	ᆜ	26		5,580	13-3	/8@201	9-5/8	"@103	372	(7-5/	8"@141	00)	(TD	@16200)
MD	INCL.	AZIMUTH	TVD	N+	-/S-	E+/W-	SECTION	DL	S T	OOL.	ME	JRVEYS		митн		TVD		N+/	S- E	+ / W-	SEC	TION	DLS	TOOL
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							<u> </u>	<u> </u>				ACTIV						<u> </u>			<u> </u>			
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Daily I	Jiai	24.00		SI.	F C	OST DE	TAIL P	\GF	UNDF	RSEPA	RΔ	TE CO	VER F	R EST	IMATI	D DRV	HOLF	COS	TS					

		Engi	neering	and Su	ıperv	ision				ΕX	AC	T En	gine	eeri	ng, I	nc				(91	8) 5	599-9	400 off	ice		
				Gas & (	Oil Co	of Ut	ah, L	LC			MLY	' DRI	LLIN							24 hrs	- m		ht to mi	dnigl	ot	
DATE 01	1/31		WELL Wolv	Fed Ara	apien	Valle	y 24-	1	CONTRAC	CTOR	SST	#68		Sanp	state ete, UT		UD DATE 1/9/07	1	3-03	9-3003	30	- 1	PERVISOR L Nayto	r- R[	) Re	ebsom
DAYS	F/ SP		PRESENT	OPERATION	Trip					TOTAL	. DEPTH 11,5	:06	PROGRES	55 55	DRILLING		1	8.16		TD FOR		on veap	AUTH.	DEPT	н .200	`
	04				Пр	out					11,0		UD DAT		1 13.	00	<u></u>	0.10			JIOW	veap		10	,200	<u>'</u>
	E/TIM		DEPTH		WT		ris	P۱		ΥP		GELS	FILTRATE	<del></del>		SANE		CHLO		CALCIL	-	SALT	r LCM			
1/31/	7:30	am	11329	1 8	3.5	6	57	20	)	27		12/18	7.6	1 1	2.00	tr	10.3	19,0	000	480	ᆜ					
	ВІТ	SIZE	MFG.	TYPE	IADO		ERIAL N	Э.	JETS 1		IN	OUT	FOOTAGE		ROP	MTR	RPM	WOB					L GRADING			
-	NO 21	8.500	RTC H	IP53ADH	537	-	(P217	0	or TF/	-	11311	11596	285	36.50	7.81	Y/N Y	30-70	24-28	IR 8.0	OR D	c u		8 1/8"	_	REAS	son PLD ate
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屵					<u> </u>					IVIDE	AULIC	<u> </u>	<u> </u>	<u> </u>	#DIV/0!	<u> </u>		<u> </u>	<u> </u>	<u> </u>		<u></u>	OW PU	MPE	2	
PUN	ИP	MANU	IFACTURER	LINE	R S	TROKE	GAL/	STK	SPM	GPI		<del></del>	DC PL	JMP MG	OTOR		·····				EPT		11546		<u> </u>	
NC						ENGTH	959				333.00	0.0000000000000000000000000000000000000	PR	ESS. DII	F PSI	X-374 (0.50)			30000000		SPM	$\bot$	50		1	
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8 1/2		DLE ASS	MBLY#	2 <b>8</b> LE	NGTH 1,0	00	O.D. 8.500		I.D.											c	o Ma	an	RIG IN		-979	9-2202
		motor	1.3		23.5		6.500													м	udla	gger				9-6005
	D/g	amma	1		38.5	-	6.500		3.38			COM	<b>NFID</b>	EN'	TIAL	$R_{l}$	EPC	)RT	1	100		usher		435	-979	9-0544
XO Filter	reuh				2.6 5.5		6.500 6.688		2.88 3.00	_									J	3333		BOP			$\dashv$	1/22 2/21
Filte				_	5.1		6.375		3.00											_	_		y Meeting	3	+	1/31
26 s	piral	wt.			795.4	10	5.000		3.00											L	ast l	BOP	Drill			1/29
jar	1				32.6	_	6.500		2.75														ate Pipe			1/29
4 sp	irai v	VI.	TOTA	\L 1	120.9 025.3,	9,999	5.000		3.00	,													ate Blind ate Annu		s	1/29 1/29
	ING V 260	VT.	вна wt. 48	PL	ј <del>wт.</del> 286		so wt.		ROT. TOR 932	_		LEVATION	GL TO		ELEVATION E ESO	-	CSG /8@2017	+	CASINO			NT CAS		<del> </del>	ROD	
	200		40		.00		252		332		5,	,554 S	URVEY		5,580	13-3	70@2017	9-5/8	w IU	372	(7-2	3/6 W	14100)		١٩٩٥	6200)
М	)	INÇL.	AZIMUTI	1 TVI		N+/\$-	E+/	۸.	SECTION	DL	S T	OOL N	AD IN	ICL. AZ	IMUTH	F	TVD		N+	/S- E	+ / W	<i>y</i> -	SECTION	DL	S	TOOL
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FRO		TO	HRS			4 HOUR		fro	m 114	411	o 115	oe'														
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		Engi	neering	and Su	pervis	ion				ΕX	AC	T En	gine	erii	ng, I	nc				(9	918)	599	-940	0 offi	ce	
				Gas & (	Oil Co	of Ut	ah, L	LC			AILY	DRI	LLIN							24 h	rs - n	nidr	night t		Inigh	t
DATE	: 2/01		WELL Wolv	Fed Ara	pien V	/alle	v 24-	1	CONTRAC	CTOR	SST	#68		Sanp	STATE ete, UT		UD DATE 1/9/07	l	3-03	9-30	030		SUPER DL N		- RD	Rebsom
DAYS	85 F/ SP		PRESENT	OPERATION	s @ 2400 Drilli					TOTA	L DEPTH	06	PROGRES		DRILLING			c 00		ł	ORMA		20	AUTH.	DEPTH	
	00				Drilli	ııy					11,7		UD DAT	10 <b>∆</b>	16.	.00	<u> </u>	6.88			Toro	wea	ф		16,	200
DA	TE/TIN	ΙE	DEPTH	V	VT	V	ris	P۱	/	ΥP		GELS	FILTRATE		SOLIDS	SAND	+	CHLOF	RIDES	CAL	CIUM	S	ALT	LCM		
2/1	900	am	11602	8	1.5	6	55	20	)	26		11/18	8.0	1	2.00	tr	9.8	18,5	500	4	80					
BIT	BIT	SIZE	MFG.	TYPE	IADC	SE	ERIAL N	Ö.	JETS 1/	32	IN	OUT	FOOTAGE		ROP	MTR	RPM	WOB				ı	DULL GF	RADING		
RUN 26	NO 21	8.500	BTC H	P53ADH	CODE 537	K	(P217		or TFA 3x12,1x	_	11311	11596	285	36.50	7.81	Y/N Y	8T+MTR 30-70	24-28	IR 8.0	OR 5	DC BT	LOC	B/S 8	G/16 1/8"	_	. Rate
27	22	8.500		D74PHD	747	+	H166	-	3X14	$\overline{}$	11596	11330	110	16.00	6.88	╁	30-70		-	٦	ы	H	0	1/6	十	. nate
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PU	MD	MANU	FACTURER	LINE	в еп	ROKE	GAL/	CTV	SPM	HYDI GP	RAULIC		DC PL	IMP MC	TOR .						DEP	TH :	SLOV	V PUI	MP PS	31
•	ΝΡ Ο.	MANU	FACTURER	LINE		NGTH	959	- 1	SPM	GP	M	7 DP AV			F PSI						SP		5			
-	1		10P130			10	2.9		120	35											1		47			
-	2	Nat	10P130	5.5		10	2.9	4	0	0											3		47	75		
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	2" bi -n/is	motor	1.3	_	23.54	+	8.500 6.500			_											Co N Mud		er			979-2202 979-6005
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хо					2.62	2	6.500		2.88			PON	טווא	LIV	IAL	. 171	LFC	יחי	]		Last	t BC	P Tes	st		1/22
	rsub				5.58	+	6.688	-	3.00	-													OP Tes			2/21
	rsub				5.16 795.40	-	6.375 5.000		3.00														fety M P Dril		<u> </u>	1/31
jar	рисс				32.62	+	6.500		2.75	_													erate		Rams	1/29
4 sp	oiral v	vt.			120.95	0.000000	5.000		3.00	)													erate			
STI	RING V	νт. [	TOTA BHA WT.		,021.43 WT.		SO WT.		ROT. TOR	QUE	GRD. E	LEVATION	GL TO	КВ КВЕ	LEVATION	SURF	CSG	INT	CASING	31	Las		erate			1/29 ROD CSG
	260		48	2	86	<u></u>	252		932		5,	554	26		5,580	13-3	/8@2017	9-5/8	'@10	372	(7	'-5/8'	'@141	00)	(TE	@16200)
A	1D	INCL.	AZIMUTI	TVD	N	I+/S-	E+/	w.	SECTION	DL	S T		ID IN		митн	T	TVD		N+	-/S-	E+/	W-	SEC	TION	DLS	TOOL
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	00	8:00	1.00				ream	18	38' to b	otto	m 6' f	ill														
8:	00	0:00	16.00		Drill 8	k su	ırvey	fro	m 115	96'	to 117	'10'														
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					S	FF C	COST	nE.	ΤΔΗ ΡΖ	\GF	UNDER	SEPAR	ATE CO	VER FO	OR EST	MATE	-O DRY	HOLE	CO	STS						

	Engi	neering a	and Su	pervis	sion			E	KAC	T Er	gin	eerii	ng, I	nc				(918	) 59	9-940	00 offi	ce	
	or: W	olverine	Gas & (	Oil Co	of Ut	ah, LLC				'DRI	LLIN						2	4 hrs -	mid			Inight	t
02/02	2/08	WELL Wolv F	ed Ara	apien V	/alle	v 24-1	CONTRA	CTOR	SST	#68		Sanp	STATE ete, UT		UD DATE 1/9/07		3-039	-3003	0	1	rvisor Navloi	- RD	Rebsom
DAYS F/ SF		PRESENT C		IS @ 2400	Hour		······································	тот	AL DEPTH	c-7	PROGRE	SS	DRILLING	TIME	ROP			TD FORM	ATION	١		DEPTH	
86	)			Drilli	ng			<u></u>	11,8		UD DAT	51 Δ	22.	00		6.86		10	owe	eap	<u> </u>	16,2	200
DATE/TIM	ΛE	DEPTH	<del> </del>	WT	+	ris P		ΥP		GELS	FILTRATE	-		SAND		CHLOF	RIDES	CALCIUN	1	SALT	LCM		
2/2-8:15	am	11776	8	3.5	7	0 2	4	34		14/21	7.0	1	2.00	tr	10.3	18,0	000	450	<u> </u>				
BIT BIT	SIZE	MFG.	TYPE	IADC	Si	ERIAL NO.	JETS 1	/32	ŧΝ	OUT	FOOTAGE	HOURS	ROP	MTR	RPM	WOB	T			DULL G	RADING		
RUN NO 26 21	8.500	RTC HF	53ADH	CODE 537	k	(P2170	or TF/		11311	11596	285	36.50	7.81	Y/N Y	8T+MTR 30-70	24-28	+	OR DO	_	B/S 8	G/16 1/8"		REASON PLD
27 22	8.500	RTC TD		747	+	H1664	3X12,1		11596	11390	261	38.00	6.87	╁	30-70	-	-	3 5	+	l°	1/0		. nate
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				<u> </u>	<u>_</u>							<u> </u>	#DIV/0!	<u> </u>		<u> </u>			<u></u>				
PUMP	MANI	JFACTURER	LINE	в Тет	ROKE	GAL/STK	SPM		PM A		DC P	эмр мо	TOR					Di	PTH	7	<b>W PU</b> 813	MP PS	SI
NO.	WAING	PROTONER	LINE		NGTH	95%	OF WI		rivi A	, DF A	- 1		F PSI			M*************************************		- 5	SPM		50		
1		10P130	5.5		10	2.94	120	_	53									<b></b>	1	+	75		_
3	Nat	10P130	5.5	,	10	2.94	0	_	0										3	4	75		+
							120	_		48 1	48 1	675 1	55	200000000	100000000000000000000000000000000000000	_							
			RILL S	TRING								GEC	LOGIC					T		GE	NERA	. INF	)
BOTTOM H		EMBLY# 29	LEN	NGTH 1 00	<del> </del>	O.D.	I.D.											_			RIG INF		070.0000
8 1/2" bi M1x-p/ls		1.3		1.00 23.54	+	8.500 6.500		-											Man dlogg				979-2202 979-6005
MWD/g				34.56	+	6.250	2 7/8	3"		COI	JEIL	ENI	ΓΙΔΙ	P		דםו	}	8,839	olpus	-			979-0544
хо			ļ	2.62	+	6.500	2.88				VI 10	LIVI		111	_/ C	// / /	J			OP Te			1/22
Filtersub Filtersub		<del></del>	<del> </del>	5.58 5.16	<del></del>	6.688 6.375	3.00													OP Te	est Neeting		2/21
26 spira			<u> </u>	795.40		5.000	3.00													OP Dr		,	1/29
jar				32.62		6.500	2.75	5										La	st O	perate	Pipe I	Rams	1/29
4 spiral	wt.	TOTAL	ļ <u>,</u>	120.95 ,021.43	1000000	5.000	3.00	)													Blind		1/29
STRING V	VT.	BHA WT.	PU	ŴΤ.		SO WT.	ROT. TOP	QUE	GRD. E	LEVATION	GL TO	KB KBE	LEVATION	SURF	CSG	INTO	CASING			CASING	Annul 2		ROD CSG
262,00	00	48	297	7,000	2	50,000	948		5,	554	URVEY		5,580	13-3	/8@2017	9-5/8	"@103	72	(7-5/8	3"@141	100)	(TD	@16200)
MD	INCL.	AZIMUTH	TVC	) N	I+/S-	E+/W-	SECTION	D	LS T				митн	<u></u>	TVD		N+/	\$- E-	/W-	SEC	CTION	DLS	TOOL
<u> </u>			<u> </u>	_			<b> </b>	<u> </u>	_					┼			<u> </u>			┼			
	L	l	1			L				DAII	Y ACTI	VITV					<u> </u>						
FROM	TO	HRS	ļ	LAST 24																			
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15:30	16:00	0.50	<b> </b>			ig-top c		wu															
16:00	0:00	8.00				rvey fro		313	' to 118	57'													
0:00			<u> </u>																				
0:00	<b>-</b>	<b> </b>	+																				· · · · · · · · · · · · · · · · · · ·
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0:00	<u> </u>			1189	8' D	rilling @	0700	) hc	our														
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0:00 Daily To	l ntal	24.00	+							<del></del>			· · · · · · · · · · · · · · · · · · ·										
Daily 1	- 141	1 - 1.00		ŚI	FE C	OST DE	TAIL PA	GE	UNDER	SEPAR	ATE CO	VER FC	RESTI	MATE	D DRY	HOLE	COS	TS					

		Engi	neerir	ng ai	nd Su	pervis	sion			E)	XAC	T En	gin	eerii	ng, I	nc				(918	) 59	9-940	00 off	ice	
<u> </u>	ato	r: W	/olveri	ne G	as & (	Oil Co	of Uta	ah, LLC				' DRI	LLIN	G RI	EPO	RT				24 hrs -	mid	Inight	to mi	inigh	t
DATE 02/	na	/ne	WELL	h, E,	od Ara	apien V	/allo	v 24 1	CONTRA	CTOR	SST	#60		COUNTY,	STATE ete, <b>U</b> T		UD DATE 1/9/07	1	0.00	9-3003	^	1	RVISOR	· DD	Doboom
DAYS						IS @ 2400		y 24-1	<u> </u>	TOT	AL DEPTH	#00	PROGRE		DRILLING			1 4	3-03:	TD FORM				DEPT	Rebsom
	87		<u> </u>			Drilli	ng			<u> </u>	11,9		1	18	24.0	00		4.92		То	rowe	eap	<u></u>	16,	200
DATE	/TiM	E I	DEPTH	· T	,	ΝT	Ιv	is i	ov T	ΥP		GELS	UD DAT	A CAKE/32	SOLIDS	SAND	PH	CHLOF	IDES	CALCIU	à I	SALT	LCM	1	
2/3-8		_	1190		······	3.5	6		20	30		12/18	6.6	1	2.00	tr	10.3	15,0		450					
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	Ю	SIZE	MFG.	Ť	YPE	IADC CODE	SE	RIAL NO.	JETS 1 or TF		IN	OUT	FOOTAG	HOURS	ROP	MTR Y/N	RPM RT+MTR	WOS	iR	OR DO	Loc		RADING G/16	oc l	REASON PLD
26 2	1 2	8.500	RTC	HP5	3ADH	537	К	P2170	3x12,1	x16	11311	11596	285	36.50	7.81	Υ	30-70	24-28	8.0	5 B	ΓI	8	1/8"	F	. Rate
27 2	2	8.500	RTC	TD7	4PHD	747	D	H1664	3X1	4	11596		379	62.00	6.11	Υ	30-70	26-28			_	<u> </u>		Щ	
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岸			<u> </u>			<u> </u>	1			UVF	RAULIC	<u> </u>			#DIV/0!	<u> </u>	1	<u> </u>				I O	W PU	MDD	<u> </u>
PUMI	, Т	MANI	JFACTUR	ER	LINE	B ST	ROKÉ	GAL / STI	т	_			/DC P	JMP MC	TOR					D	EPTH	7	813	VIFF	
NO.	$\bot$						NGTH	95%							F PSI		oroanomorono		000000000		SPM	_	50		
1	4		l 10P1		5.5		10	2.94	120	1	53									<b>-</b>	1	+	75		
3	$\dashv$	Nat'	I 10P1	30	5.5	-	10	2.94	0	-	0									·	3	4	75		
3									120			48 1	48 1	625 1	55			460000	99.866		<u>.</u>				
0000,0000	000000	10000000	0100400000	D	RILL S	TRING	::::::::::::::::::::::::::::::::::::::		3 120						LOGIC					E.330	00000000	GEI	VERA	INF	)
BOTTO	и но	LE ASS	EMBLY#	29	LEN	NGTH		O.D.	I.D.														RIG IN		
8 1/2'						1.00	-	8.500												Co	Mar	1			979-2202
M1x-p						23.54	-	6.500	1 0 7 1										1	86.33	dlog	-			979-6005
MWD XO	/ g	amma	<u> </u>			34.56 2.62	+	6.250 6.500	2.8			CON	<b>NFIC</b>	ENT	ΓIAL	R	EPC	PRT		(1) (1) <del></del>	olpus	op Te	et	435	979-0544
Filters	ub			$\dashv$		5.58	+	6.688	3.0										ı			OP Te			2/21
Filters	ub					5.16	3 (	6.375	3.0	)										La	ıst Sa	afety N	/leetin	]	2/3
26 sp	iral	wt.				795.40	+	5.000	3.0													OP Dr			1/29
jar						32.62	+	6.500	2.7	-										98.80		perate			
4 spir	ai w	π.	то	TAI	1	.021.43	0.00000	5.000	3.0	J												perate perate			1/29
STRIN		_	BHA W		PU	wt.		SO WT.	ROT. TO			LEVATION	GL TO		LEVATION	_			ASING	11	INT	CASING	2	P	ROD CSG
268	,00	0	48		295	5,000	2:	58,000	948	3	5,	554	26		5,580	13-3	/8@2017	9-5/8	@103	372	(7-5/8	8"@14 <sup>.</sup>	100)	(10	@16200)
MD	_	INCL.	AZIMU	JTH	TVE		l+/S-	E+/W-	SECTION	D	LS T		URVEY		митн	1	TVD		N+	/\$- E	- / W-	SEC	CTION	DLS	TOOL
								<u></u>	<u> </u>	<u> </u>		L_				<u> </u>			<u> </u>			<u></u>		L	
FRO	/ T	TO	HR	s J		LAST 24	HOURS	S:				DAII	LY ACTI	VITY											
0:00	_	0:00	24.0			Drill 8	su \$	rvey fr	om 118	357	' to 11	975'10	00% sli	de last	24 hou	ırs.									
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0:0			<u> </u>			1200	5' D	rilling	@ 051	5 hr	our														
0:0	$\neg$		<del>                                     </del>	_		.200	<u>, , , , , , , , , , , , , , , , , , , </u>	· ····································	<u> </u>	- 110															
0:0	_																								
0:0																									
Daily	То	tal	24.	00						_		·													
						S	FF C	OST DE	TAIL D	$\Delta GF$	IINDE	SEPAR	ATE CO	VERTO	R ESTII	MATE	D DRY	HOLE	COS	STS					

4 spiral with months and state of the control of th		Engi	neerin	g and Si	upervi	sion				E)	(AC	T En	gine	erir	ıg, I	nc				(9	118)	599	9400	offi	ce	
March   Marc	<u> </u>	or: W		e Gas &	Oil Co	of U	tah, L	LC				DRI	LLIN						:	24 hr	rs - r				Inight	
Market   M	l .	1/00		. End Ar	onion !	Valla	v 24	,	CONTRAC	TOR		#60		ı				1	2 02	0 20	020					on a chal
Note   Column   Col							y 24-			TOTA		#00	PROGRES					<u> </u>	3-03							ebsom
Control   Cont	88	3			Т	rip in	1				12,0	14	3	4	9.0	0	<u> </u>	3.78		L	Torc	wea	ар		16,20	10
24-80   1-20							r								,	····		1								
STEATA   S							-									1	<del> </del>	<del> </del>		_		s	ALT	LCM		
Set   No.					***************************************								L	I		1	1 :0.0	, ,,,								
28   21   30.00   RTC   PUPSANDH   S37    KP2170   31.2   11.90   11.2   11.90	2 1	SIŻE	MFG.	TYPE			ERIAL N	О.			IN	OUT	FOOTAGE	HOURS	ROP			WOB	L.,	Lon I	50				ool es	* COV DI D
27   28   28   2500   RTC   TOZ-PEND   747   O-H1106   A3014   11590   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   D-M1106   A 10   O   O   O   D-M1106   A 10   O   O   O   D-M1106   A 10   O   O   O   D-M1106   A 10   O   O   O   O   O   D-M1106   A 10   O   O   O   O   O   D-M1106   A 10   O   O   O   O   O   D-M1106   A 10   O   O   O   O   O   D-M1106   A 10   O   O   O   O   O   D-M1106   A 10   O   O   O   O   O   O   O   O   O		8.500	RTC	HP53ADI	+	-	(P217	0			11311	11596	285	36.50	7.81	+	<del> </del>	24-28	+	++		1			-	
Public   P	27 22	8.500	-		+	_		_		-		12014	418'		#VALUE	Y	30-70	26-28	5.0	+-+		П		_	-+-	
New   New	28 23	8.500	STC	F67ODG	647	N	/IY193	35	3X14		12014		0	0.00	#DIV/0!											
August   A					<u> </u>						·				#DIV/0!	<u> </u>	<u> </u>		<u></u>							
1																				-					MP PSI	
1 Next 10P130 5.5 10 2.94 10 0 0 1 2.94 10 10 0 0 1 1 1 475		MANU	IFACTURE	R LIN			1	- 1	SPM	GF	PM A	/ DP AV	1		- 1					ŀ						
3   Section   S		Nat'l	10P13	0 5.					120	35	53		,								1					
Total   Series   Se	2	Nat'	10P13	0 5.	5	10	2.9	4	0	(	)										2	2	47	5		
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Section   Sect	DOTTOMA	OL F ACCI	-1401.74			G T	0.0		10	-			1883188888	GEO	LOGIC	3833	500000000			388(23)						
Veriff Talk			INBLT#	30 1		0			1.0.	$\dashv$											Co N	Man		RIG INF		79-2202
Company   Comp	VertiTra	k			30.7																Mud	logg	er			
												CON	JEID	FN7	TAI	RI	=PC	)RT			Tool	push	ner		435-97	79-0544
Cast Safety Meeting   Cast Safety Meeting								-				<u> </u>	VI 1D		<i>17</i> \_		_, C		]							<del></del>
28 spiral wt.																										
A spiral						_																		eung		
TOTAL   994.08   995.00   995.00   995.00   988   995.00   948   5.554   26   5.580   13.98@2017   9-88@10720   77.58@14100   TDQ@16200   12.00   12	jar					_		-																Pipe F	Rams	
SPRINK   BRAW   PUW   SOW   POT NOBULE   PROJECTION   SULE   PROJECTION   PUW   POT NOBULE   PROJECTION   PUW   POT NOBULE   PROJECTION   PUW   POT NOBULE   PROJECTION   PUW   POT NOBULE   POT NOBULE   PROJECTION   PUW   POT NOBULE   POT	4 spiral	wt.			120.9	5	5.000		3.00												Las	t Op	erate E	Blind	Rams	2/4
269,000	STRING	WT T				8	SO WT		BOT TOR	OUE	GRD F	EVATION	I GLTO	KR IVRE	LEVATION	SHE	CSG	T INT	CASING	3.1	Las					
NOC						2							<del> </del>			$\overline{}$		<b>†</b>			(7					
Color   Colo												S	URVEYS	3												
FROM   TO   HRS   LAST 24 HOURS:   Drill & survey from 11975' to 12014'     9:00   11:00   2:00   Trip out to 10300' had to pump out from 11825' to 10464' pulling 30-35,000 over with pump on & rotating slow     15:00   4:00   Trip into 10496' Wash & ream from 10496' to 12014'     15:00   16:30   1.50   Circ bottoms up     16:30   21:30   5:50   Trip out to 11780' had to pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow     16:30   23:30   2:00   Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak     23:30   0:00   0:50   Trip in     16:30   2:30   2:00   Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak     23:30   0:00   0:50   Trip in     16:30   2:30	MD	INCL.	AZIMUT	TH TV	D .	N+/S-	E+/	W-	SECTION	Di	LS T	OOL N	ID IN	CL. AZI	/UTH	$\vdash$	TVD		N+	/S-	E+/	W-	SECTI	ION	DLS	TOOL
FROM   TO   HRS   LAST 24 HOURS:   Drill & survey from 11975' to 12014'     9:00   11:00   2:00   Trip out to 10300' had to pump out from 11825' to 10464' pulling 30-35,000 over with pump on & rotating slow     15:00   4:00   Trip into 10496' Wash & ream from 10496' to 12014'     15:00   16:30   1.50   Circ bottoms up     16:30   21:30   5:50   Trip out to 11780' had to pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow     16:30   23:30   2:00   Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak     23:30   0:00   0:50   Trip in     16:30   2:30   2:00   Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak     23:30   0:00   0:50   Trip in     16:30   2:30	<b>!</b>			_			<del>                                     </del>									<del>                                     </del>			$\vdash$							
0:00       9:00       9:00       Drill & survey from 11975' to 12014'         9:00       11:00       2:00       Trip out to 10300' had to pump out from 11825' to 10464' pulling 30-35,000 over with pump on & rotating slow         11:00       15:00       4:00       Trip into 10496' Wash & ream from 10496' to 12014'         15:00       16:30       1.50       Circ bottoms up         16:30       21:30       5.50       Trip out to 11780' had to pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow         21:30       23:30       2:00       Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak         23:30       0:00       0.50       Trip in         0:00           0:00           0:00           0:00           0:00           0:00           0:00           0:00           0:00           0:00           0:00           0:00           0:00 <td< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>DAIL</td><td>Y ACTIV</td><td>/ITY</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>												DAIL	Y ACTIV	/ITY												
9:00         11:00         2.00         Trip out to 10300' had to pump out from 11825' to 10464' pulling 30-35,000 over with pump on & rotating slow           11:00         15:00         4.00         Trip into 10496' Wash & ream from 10496' to 12014'           15:00         16:30         1.50         Circ bottoms up           16:30         21:30         5.50         Trip out to 11780' had to pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           21:30         20:00         Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak           23:30         0:00         Trip in           0:00         Trip in           0:00         Image: state of the pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           0:00         Image: state of the pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           0:00         Image: state of the pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           0:00         Image: state of the pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           0:00         Image: state of the pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           0:00         Image: state of the pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow           0:00         Image: state	·····							,	446																	
11:00       15:00       4.00       Trip into 10496' Wash & ream from 10496' to 12014'         15:00       16:30       1.50       Circ bottoms up         16:30       21:30       5.50       Trip out to 11780' had to pump out from 11780' to 10565' pulling 15-20,000 over with pump on & rotating slow         21:30       23:30       2.00       Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak         23:30       0:00       0.50       Trip in         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1         0:00       1       1<													11825'	to 10/	64' n	ulline	a 30-3	5 000	0.46	or wi	ith r	um	n on	& ro	tating	elow
15:00 16:30 1.50																ann i	9 00-0	J,000		, W	1111	,uiii	יווע ק	٠١٥	auriy .	J.(U.14
21:30       2:30       2.00       Change Bha lay down flex jt. & Mwd & gamma pickup VertiTrak         23:30       0:00       0.50       Trip in         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       12014' Wash & ream @ 11053' @ 0515 hour         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0       0         0:00       0		·			Circ	botte	oms	up																		
23:30       0:00       0.50       Trip in         0:00       □       □       □         0:00       □																		0,000	ove	er wi	th p	oum	p on	& ro	tating	slow
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0:00     12014' Wash & ream @ 11053' @ 0515 hour       0:00     5       0:00     5       0:00     6       0:01		<del>                                     </del>		_																						
0:00             0:00             0:00             0:01   Total             24.50					1201	14'	Wa	sh 8	& ream	1@	1105	3' @ 05	15 houi													
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		l otal	24.5	_	-																					
SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS	Daily I	olal	_ ∠4.5	<u> </u>		EEZ		K	-A11	<u> </u>	History	TOPRA	ATE AA	VED FA	в сети	AAT	ייבע מי	ייאט		CTC						

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				ne Gas	s & C	Oil Co c	of Uta	h, LLC			AILY	' DRI	LLIN						2	24 hrs -	mid			Inight	
DAT	E 2/05		WELL Wol	v Fed	Ara	pien V	'allev	24-1	CONTRAC	CTOR	SST	#68		Sanne	state ete, UT	1	UD DATE 1/9/07		3-030	9-3003	n	SUPER		- BD I	Rebsom
	S F/ SF		PRESE	IT OPER/	ATION	S @ 2400	Hour		<u> </u>	TOTA	L DEPTH	700	PROGRES		DRILLING			1 -7		TD FORM				DEPTH	10000111
	89					Drill	ling				12,1			07	14.	00	<u> </u>	7.64		To	owe	ар		16,2	00
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28	23	8.500	STC	F670	DG	647	MY	/1935	3X14		12014		107	14.00	7.64	Y	0-120	36-42	+	011 00	1	1 3/3	G/10	00 11	-AGONT LD
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XO	*********					2.62	6.	.500	2.88	7		COI	<b>VFID</b>	ENI	IAL	. KI	=PC	HI		200		OP Tes	it	100 0	1/22
Filte	ersub	1				5.58	6.	.688	3.00			•								Ne	ext B	OP Tes	st		2/21
Filt	ersub					5.16	6.	.375	3.00											La	st Sa	afety M	eeting	1	2/5
26	spiral	wt.				795.40	+	.000	3.00													OP Dril			2/5
jar						32.62	+	.500	2.75	—												perate			2/5
4 S	oiral v	vt.	TOT	-71		120.95 994.08	2000000000	.000	3.00	,												perate .			1/29
ST	RING V	/T.	BHA WT	AL		WT.		O WT.	ROT, TOR	QUE	GRD. E	LEVATION	GL TO	кв кве	LEVATION	SURF	CSG	INT	CASING			CASING 2			OD CSG
2	69,00	0	48		295	,000	25	8,000	0		5,	,554	26		5,580	13-3	/8@2017	9-5/8	"@103	372	(7-5/8	3"@ <b>1</b> 410	00)	(TD(	<b>216200</b> )
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02/06/08 Wolv Fed Arapien Valley 24-1 SST #68 Sanpete, UT 11/9/07 43-039-30030 DL PRESENT OPERATIONS @ 2400 Hour TOTAL DEPTH PROGRESS DRILLING TIME ROP TO FORMATION	PERVISOR L Nayloi AUTH.		Rebsom
02/06/08 Wolv Fed Arapien Valley 24-1 SST #68 Sanpete, UT 11/9/07 43-039-30030 DL DAYS F/ SPUD PRESENT OPERATIONS @ 2400 Hour TOTAL DEPTH PROGRESS DRILLING TIME ROP TO FORMATION	L Nayloi AUTH.	DEPTH	Rebsom
<b>90</b> Trip in 12,169 48 10.00 4.80 Toroweap	LCM		00
MUD DATA	LCM		
DATE/TIME DEPTH WT VIS PV YP GELS FILTRATE CAKE/32 SOLIDS SAND PH CHLORIDES CALCIUM SALT			
2/6-8:00am   12014   8.5   65   22   32   13/19   6.0   1   2.00   tr   10.7   17,000   400			
BIT BIT SIZE MFG. TYPE IADC SERIALNO. JETS 1/32 IN OUT FOOTAGE HOURS ROP MTR RPM WOB DULL	LGRADING		
RUN NO CODE OrTFA Y/N RT+MTR R OR DC LOC B/ 28 23 8.500 STC F67ODG 647 MY1935 3X14 12014 12169 155 24.00 6.46 Y 0-120 36-42 8.0 8 BT A 2			EASON PLD ESSSURE
29 24 8.500 STC F67ODG 647 EB4694 X16 1-Blan 12169 0 0.00 #DIV/0!	1//0	<del>   </del>	0333010
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	OW PU	MP PS	
PUMP MANUFACTURER LINER STROKE GAL/STK SPM GPM AV DP AV DC PUMP MOTOR  NO. LENGTH 95% SPM SPM SPM	12064 50		
1 Nat'l 10P130 5.5 10 2.94 120 353	500		
2 Nat'l 10P130 5.5 10 2.94 0 0	500		
3 0 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3			
	ENERAL	INFO	0.0000000000000000000000000000000000000
BOTTOM HOLE ASSEMBLY# 31 LENGTH O.D. I.D.	RIG INF	-0	
8 1/2" bit 1.00 8.500 Co Man			79-2202
Junk sub         1.97         5.7/16"         2.25         Mudlogger           Bit sub         3.53         6.5/8"         2.3/8         CONCIDENTIAL DEPORT         Toolpusher			79-6005 79-0544
Sit sub   3.53   6.5/8"   2.3/8		400-2	1/22
Filtersub 5.58 6.688 3.00 Next BOP	Test		2/21
Filtersub         5.16         6.375         3.00         Last Safety	······································	)	2/6
26 spiral wt. 795.40 5.000 3.00 Last BOP II iar 32.62 6.500 2.75 Last Opera		Domo	2/6
Jar 32.62 6.500 2.75 Last Opera 4 spiral wt. 120.95 5.000 3.00 Last Opera			2/6
TOTAL 968.83 Last Opera			2/6
STRING WT. BHA WT. PU WT. SO WT. ROT. TORQUE GRD, ELEVATION GL TO KB KB ELEVATION SURF CSG INT CASING 1 INT CASING 270,000 45,000 298,000 260,000 0 5,554 26 5,580 13-3/8@2017 9-5/8"@10372 (7-5/8"@1			200 CSG 2016200)
SURVEYS			
MD INCL AZIMUTH TVD N+/S- E+/W- SECTION DLS TOOL MD INCL AZIMUTH TVD N+/S- E+/W- S	SECTION	DLS	TOOL
DAILY ACTIVITY			
FROM TO HRS LAST 24 HOURS: 0:00 10:00 10:00 10.00 Drill & survey from 12121' to 12169'			
0:00 10:00 10:00 Drill & survey from 12121' to 12169'			
10:30 19:00 8.50 Trip out-pumpout 12169' to 10408'-			
19:00 20:30 1.50 Lay down VertiTrak-pickup junk sub&bit sub-work blind rams			
20:30         22:00         1.50         Trip into 3509'           22:00         23:30         1.50         Cut & slip drilling line-fill pipe	<del>-</del>		
23:30   0:00   0:50   Trip in			
0:00			
0:00 On trip out encountered more troubles @ 12132' was stuck & packed off for a short period of	time w	orked	free
0:00 Backed ream out to 10408'			
0:00 Encountered more troubles @ 8359" to 8334' inside casing @ 8334' string wt went from 226,	,000 to	323,0	000
0:00 Jars went off string wt fell back to 261,000 from there from there it took 35,000 over sting wt.	to 833	4'	
0:00 Then string wt. went back to normal the rest of the way out of the hole			
0:00   Bit # 23 Graded @ 8-8-E with all 3 nose cones worn off 1/8" out of gauge had vertical scares	on all 3	3 shar	nks
0:00 While dragging inside of casing.			
0:00 When going back in hole tight @ 8334' worked down to 8437' setting 40,000 making 2-3" per		then i	t quit
0:00 Making progress eased up to 50-55,000 down making 1-1 1/2" per stroke then it fell free @ 84  Daily Total 24.00 12175' Drilling @ 0500 hour	438'		
Daily Total 24.00 12175' Drilling @ 0500 hour  SEE COST DETAIL PAGE UNDER SEPARATE COVER FOR ESTIMATED DRY HOLE COSTS			

		Engi	neering	and Su	pervis	sion			E)	(AC	T En	gi	ne	erii	ng, I	nc				(9	18)	599	9-940	0 offi	се	
<u> </u>		or: W	/olverine	Gas &	Oil Co	of U	ah, LLC		D	AILY	DRII			G RI	ΕPO	RT				24 hr	s - r				Inight	
DATE	2/07	/08	WELL. Wolv	Fed Ara	apien V	/alle	y 24-1	CONTRA	CTOR	SST	#68			COUNTY, Sanpe	state ete, UT		UD DATE 1/9/07		3-03	9-30	030	- 1	SUPER DL N		- RD	Rebsom
DAYS	F/ SP		PRESENT	OPERATION			agers		TOTA	AL DEPTH 12,1	03	PRO	GRES		DRILLING		1	2.40		TD FO		TION			DEPTH 16,2	
	J.		l		want	JII 10	ggers		_	12,1		UD (	DAT/		10.	00		2.40			OIC	WC	ар	<u> </u>	10,2	00
-	TE/TIN	_	DEPTH		NT N			ov .	YP		GELS		RATE		<b>†</b>	SANE	<del> </del>	CHLOF		GALC		S	SALT	LCM		
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BIT RUN	BIT NO	SIZE	MFG.	TYPE	IADC	S	ERIAL NO.	JETS 1		IN	OUT		TAGE		ROP	MTR Y/N	RPM RT+MTR	WOB	İŘ	ÖR	DC	LOC	DULL GF B/S	G/16	OC R	EASON PLD
28		8.500	STC F	67ODG	647	V	/Y1935	3X1		12014	12169	1:	55	24.00	6.46	Υ		36-42		-	BT	Α	2	1/8"	_	esssure
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M	D	INCL.	AZIMUTH	TVE	)	I+/S-	E+/W-	SECTION	D	LS TO		1D	INC		MUTH	1	ŤVD		N+	/S-	E+/	W-	SEC	TION	DLS	TOOL
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	Engi	neering	g and Su	pervis	sion			ΕX	AC	T En	gine	erii	ng, I	nc				(918	) 59	9-940	0 offi	ice	
	or: W		e Gas & (	Oil Co	of Ut	ah, LLC			λILY	DRI	LLIN						2	24 hrs -	mid			dnight	
02/08 DAYS F/ SI			Fed Ara			y 24-1	CONTRAC		SST	#68	PROGRES		STATE ete, UT TORILLING	1	UD DATE 1/9/07	l	3-039	9-3003		DLI		r- RD F	Rebsom
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BIT BIT	SIZE	MFG.	TYPE	IADC	SE	ERIAL NO.	JETS 1/3	32	IN		TOOTAGE		ROP	MTR	RPM	WOB	1			DULL G	RADING		
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28 23 29 24	8.500 8.500	<del>                                     </del>	F67ODG F67ODG	647 647		/Y1935 B4694	3X14 X16 1-B		12014 12169	12169 12193	155 24	24.00 5.00	6.46	Y N	0-120 40.00	36-42 20-25	_	8 B	-	-	1/8" In	<del>  </del>	esssure
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NO.		10010			NGTH	95%			3888		PR	ESS. DIF	F PSI	8 8 8 8 8 8 8	3.3(8)7(8)33	10-6155-51	3000	88888	PM.	+	50		
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воттом н	OLE ASS	EMBLY#	31 LEI	NGTH		O.D.	I.D.														RIG IN	=0	
8 1/2" bi			_	1.00	+	8.500		_										20.88	Mar 				79-2202
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Filtersuk	······································			5.58	+	6.688	3.00													OP Te			2/21
Filtersub				5.16	3	6.375	3.00											La	st S	afety M	leeting	9	2/8
26 spira	l wt.			795.40		5.000	3.00											La	st B	OP Dri	II		2/6
jar				32.62	-	6.500	2.75	_												perate			2/5
4 spiral	wt.	TOT	<u> </u>	120.95	200000	5.000	3.00													perate			2/8 2/6
STRING	WT.	TOTA BHA WT.		968.83 WT.		SO WT.	ROT. TORG	QUE	GRD. EL	EVATION	GL TO	KB KBE	LEVATION	SURF	CSG	INT	ASING			perate CASING			D CSG
270,00	00	45,000	298	3,000	2	60,000	0		5,	554	26		5,580	13-3	/8@2017	9-5/8'	<u>'@103</u>	372	(7-5/8	8"@141	00)	(TD@	16200)
MD	INCL.	AZIMUT	H TVI	) I N	I+/S-	E+/W-	SECTION	DL	s <b>I</b> T(		URVEY:		митн	1	TVD		N+/	s. I e.	- / W-	SEC	TION	DLS	TOOL
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İ		Engi	neerin	g an	d Su	pervis	ion			E	XAC	T E	ngi	ne	erir	ng, I	nc	•			(918	) <b>59</b> :	9-940	0 offi	ce	
<u> </u>	rato	or: W		ne Ga	as & C	Oil Co c	of Uta	ah, LL	_			Y DRI	ILL	IN						2	4 hrs -	mid			Inight	
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	BIT NO	SIZE	MFG.	ŦY	PE.	IADC	SE	RIAL NO.	JETS or TF		IN	OUT	FOO	TAGE	HOURS	ROP	MTR Y/N	RPM RT+MTR	WOB	IR I	OR DC		DULL GF	G/16	OC R	EASON PLD
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1	-	Nat'	10P13	0	5.5		10	2.94	120	3	53											1	50	00		
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вотто	M HC	LE ASS	EMBLY#			NGTH	<u>-</u>	O.D.	I.D						GEC	LOGIC		80000						RIG INF		
			ler 4-1/			3.68	3 8	8.500	1.2												Co	Man				79-2202
X-OVE	er 4-	1/2reg	1/2f	h b		1.27	' E	5-7/8"	2-5/	16"										1	Mu	dlogg	ger		435-9	79-6005
_			x 4-1/2	if b		1.66	<del></del>	15/16"	2-1/			CO	NF.	ID	EN7	ΓIAL	RI	=PC	RT			olpus			435-9	79-0544
float				$\dashv$		2.45 5.16	+	-11/16" 6.688	3.0			L	×							J			OP Tes			2/21
Filter	Sub			-		5.10	<del>'                                    </del>	0.000	3.0	0											200		afety M		i	2/9
26 sp	oiral	wt.		_		795.40	, ;	5.000	3.0	0	1												OP Dril		<u></u>	2/9
jar						32.62	2 (	6.500	2.7	5											La	st O	perate	Pipe I	Rams	2/5
4 spi	ral v	vt.		+		120.95	2000000	5.000	3.0	0												<del></del>	perate			2/9
STR	NG W	/T.	TOT BHA WT.		PU	963.19 wt.		SO WT.	ROT. TO	RQUE	GRD.	ELEVATION	G	SL TO P	КВ КВЕ	LEVATION	SURF	CSG	INT	CASING			casing 2			2/6 od csg
270	0,00	0	45,000		298	3,000	26	60,000	0		<u> </u>	5,554		26		5,580	13-3	/8@2017	9-5/8	<u>"@103</u>	72	(7-5/8	3"@141	00)	(TD@	@16200)
ME	· · · ·	INCL.	AZIMŲ	ти Г	TVD	N N	+/S-	E+/W	SECTIO	ul r	DLS	TOOL	SURV MD	/EYS		митн	7	TVD		N+/	s. F	- / W-	SEC	TION	DLS	TOOL
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19:	-	19:30							ork blir		ams															
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						SI	FE C	OSTI	ETAIL P	AGE	UND	R SEPA	RATE	CO	VER FC	R ESTI	MATI	D DRY	HOLE	COS	TS	_				

	Eng	ineering a	and Super	visior	7		ΕX	AC	T En	gine	eeri	ng, l	nc				(918	3) 59	9-94	00 offi	ce	
	tor: V		Gas & Oil C	o of U	Itah, LLC			ILY	DRI	LLIN						2	24 hrs	- mid		t to mic	Inight	
	0/08		ed Arapie			CONTRA	CTOR	SST	#68		Sanp	ete, UT	1	UD DATE 1/9/07	ŀ	3-039	9-3003	30	1			Rebsom
DAYS F/	SPUD 4	PRESENT O	PERATIONS @ 2 Ti	2400 Hou rip out			TOTAL	DEPTH 12,2	06	PROGRES	ss 13	DRILLING		1	13.00		TD FOR	rowe		AUTH.	16,2	00
				<u></u>				,-		UD DAT	Α								. T.F			
DATE/ 2/10-8:		DEPTH 12193	wr 8.5		VIS P 80 1		YP 28		GELS 11/18	FILTRATE 6.2	CAKE/32	2.00	SANI	10.3	CHLOF		CALCIU	М	SALT	LCM		
										SIT DATA		1 = = =		<u> </u>	1							
BIT BIT		MFG.		DC S	SERIAL NO.	JETS 1		IN	OUT	FOOTAGE	HOURS	ROP	MTA Y/N	RPM RT+MTR	WOB	IR	OR D	C LO		GRADING G/16	OC R	EASON PLD
30 25	8.500	SRC F4	7ODPS 62	27	EB4694	3X1	6	12193	12206	13	1.00	13.00	N	55.00	30-40	3.0	7 b	t o	2	In	BI	na
	1	<u> </u>				1	_				1	#DIV/0 #DIV/0	-					+	+			
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	1			T		_	_	RAULIC		1	Т.							ЕРТН	_	OW PU	MP PS	1
PUMP NO.	MAN	UFACTURER	LINER	STROKE LENGTH		SPM	GPN	/ A\	/ DP AV			TOR F PSI					L	SPM	1	2064 50		
1	-	1 10P130	5.5	10	2.94	103	303	3									_	1	+	500		
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						103	303	3		10	050	155										
			ORILL STRI					001000000000	5059000F616566		GEO	DLOGIC				800000	33333		GE	NERAL		
Bit	HOLE ASS	SEMBLY# 33		.00	O.D. 8.500	I,D.											Co	Mar	<u> </u>	RIG INF		79-2202
Junk s	dı		1	.97	5 7/16"	2.25										1	Mı	udlog	ger		435-9	79-6005
Bit sub	h			3.53 2.45 (	6 5/8" 6-11/16"	2 3/8	3"		CON	<b>NFID</b>	EN'	TIAL	R	EPC	RT		(1000) ····	olpus	sher OP T	est	435-9	1/22
Filters				5.16	6.688	3.00	5		<b></b>							J			OP T			2/21
																				Meeting	}	2/10
26 spir jar	al wt.		-	2.62	5.000 6.500	2.75													OP D perat	e Pipe I	Rams	2/9 2/5
4 spira	wt.		120	0.95	5.000	3.00	<u> </u>										2000			e Blind		2/9
STRING	WT.	TOTAL BHA WT.	. 963 PU WT.	3.08	SO WT.	ROT. TOP	RQUE	GRD. E	LEVATION	GL TO	кв кв	ELEVATION	SURF	CSG	INT	CASING			perat CASIN	e Annul G2		2/6 OD CSG
268,0	000	45,000	298,000	0   1	260,000	0		5,	554	26		5,580	13-3	/8@2017	9-5/8	<u>"@10:</u>	372	(7-5/	8"@14	<b>1</b> 100)	(TD	@16200)
MD	INCL.	AZIMUTH	מעד	N+/S-	E+/W-	SECTION	DLS	S TO		ID IN		митн		TVD		N+	/S· E	+ / W-	SE	CTION	DLS	TOOL
	ļ				-	ļ							_			ļ			<b> </b>			
	<u> </u>	<u> </u>		<u> </u>		<u> </u>	<u> </u>		I	Y ACTI	VITV								<u>. L</u>			
FROM	ТО	HRS		T 24 HOU					DAIL	- I AOII	*****											
0:00	1:00 6:00				6982' ing from	6982'	to 7	240	·7320' to	o 7590	8320	)' to 83	50	trip int	o 884	8'						
6:00	11:00	5.00	Tri	p out	reroll ca	asing @	D 75	13' to	7510' a	gain @	7154	to 714	19'									
11:00 12:00					n casing												ut 8 3.	/8" -	-1/8'	out o	f gau	ge
16:00	_	-			ream 1				.0,000	.o pusi		·,00	J 10	pun up								
16:30		<del>                                      </del>			12046'	00.461		100'														
17:30 18:00	_				ream 1: n 12193			193'													<del></del>	
_	21:30		W	ork ju	nk bask	et & ci	rc & o					:										
21:30		2.50	Tri	p out	no trou	ble trip	ping	out to	o casin	g shoe												
0:00	_	1	Ru	ıffest	spots to	roll ou	it we	re @	7149' to	7151'												
0:00									75	10' to 7	<sup>7</sup> 513'											
0:00	-		<u> </u>						83	39' to 8	348'				····							
0:00	┖		Or	ı trip d	out 8348	3' pulle	d 6.0	00 ov	er strin	g wt	Hole i	s in ex	cele	nt cond	d	····						
0:00			12	206' p	oickup V	erTitra	ık @	0300	) hour													
0:00 Daily		24.00	<u> </u>												••••							
			-	SEE	COST DE	TAIL P	AGE	JNDEF	SEPAR	ATE CO	VER F	OR EST	MAT	D DRY	HOLE	CO	STS					

		Engii	neering a	and Su	pervis	ion			E	(AC	T En	gine	erii	ng, I	nc	-			(918	3) 59	9-940	00 offi	ce	
			olverine	Gas & C	Oil Co	of Uta	ah, LLC			AILY	DRI	LLIN						;	24 hrs	- mid			Inight	
	2/11	/08		ed Ara			y 24-1	CONTRA		SST	#68	······		ete, UT	1.	UD DATE 1/9/07	i	3-03	9-3003		DL			Rebsom
DAY	95 95		PRESENT O		S@2400 Drilling				TOTA	12,3	12	PROGRES	ss 06	DRILLING		1	8.83		TD FOR	nation rowe		AUTH.	DEPTH 16,2	00
						*					М	UD DAT	A											
	TE/TIM		DEPTH 12206	8	vT 5	VI 6			үр 26		GELS 11/17	FILTRATE 7.0	CAKE/32	SOLIDS 2.00	SANE	9.5	17,0		CALCIU 240	М	ŞALT	LCM		
F	0.00		12200		.0		<u> </u>	<u>, l</u>				IT DATA	J	7 2.00	1 "	1 0.0	.,,,,							
BIT RUN	BIT NO	SIZE	MFG.	TYPE	IADC CODE	SE	RIAL NO.	JETS 1		!N	OUT	FOOTAGE	HOURS	ROP	MTR Y/N	RPM RT+MTR	WOB	iR	OR D	LOC		G/16	OC R	EASON PLD
30	25	8.500	SRC F4	7ODPS	627	Е	B4694	3X1	6	12193	12206	13	1.00	13.00	N	55.00	30-40	3.0	7 b			ln	Br	ıa
31	26	8.500	REEDTD	74PHD	747	D	H1625	1-BK-2	-18	12206	ļ	106	12.00	8.83	ļΥ	0-114	34-36	<u> </u>		+		_		
Н	_					┼			$\dashv$		<u> </u>	<del> </del>	<b></b>	#DIV/0!	+	ļ		_		╁	-	-		
F									HYD	RAULIC	S										SLO	W PU	MP PS	ļ .
	MP	MANU	FACTURER	LINEF		ROKE	GAL / STK	SPM	GF	PM A	DP AV		- 1	OTOR					L	EPTH		2244		
	o. 1	Natil	10P130	5.5	_	NGTH 10	95% 2.94	110	32	23	l	PRI	ESS. DIF	F PSI						SPM 1	-	65		
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				) DRILL S				110	32	23		15		DLOGIC							CE.	NERAI	INIEO	
вотт	OM HO	LE ASSE			IGTH	<u> </u>	O.D.	I.D.	$\dashv$				GEC	JEOGIC							GE	RIG INF		
Bit					1.00	1	8.500												Co	Mar	1		435-9	79-2202
Ver	iTral	<b>(</b>		ļ	30.75	4			_									1	98/800	udlog	•			79-6005 79-0544
floa	sub			<u> </u>	2.45	-	6.750	2.81			CON	<b>VFID</b>	EN	ΓIAL	$R_{i}$	EPC	RT			olpus ast Bo	OP Te	est	435-8	1/22
Filte	rsub				5.58		6.688	3.00											N	ext B	OP T	est		2/21
	<del></del>			ļ	705.46	<u> </u>																Meeting	1	2/11
26 s jar	piral	wt.		<del> </del>	795.40 32.62	+	5.000 6.500	3.00 2.75													OP Dr	Pipe I	Rams	2/11
-	iral v	vt.			120.95	+	5.000	3.00	_													Blind		2/9
ST	RING V	π. Ι	TOTAL BHA WT.		988.75 wt.		SO WT.	ROT. TOP	RQUE	GRD. E	LEVATION	I GL TO	кв Ікві	ELEVATION	SURF	CSG	INT	CASING			perate	Annul		2/11 00 CSG
_	70,00		45,000	+	,000	20	61,000	0			554	26		5,580	_	/8@2017	9-5/8	<b>"</b> @10	372	(7-5/8	8"@14	100)	(TD(	@16200)
	ID.	INCL.	AZIMUTH	TVD		+/S·	E+/W-	SECTION	Di	e I 7		URVEY:		митн		TVD		I N	/S-   E	+ / W-	l ec	CTION	DLS	TOOL
Ľ	iU	INCL.	AZINUTH			+/3-	E+7 VV-	SECTION		-3 - ''	JOL N	iio iiv	OL. AZ	IMIOTA		140		144	,,,, L	+ / ••-	JE	CHOIN	DLO	1002
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FF	OM	TO	HRS	1	LAST 24	HOURS	S:				DAIL	Y ACTI	/ITY											
	00	2:00	2.00				- work																	
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8:	30	10:30	2.00		Trip i	nto	12103'																	
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	00			+							en butto oing insi			pieces	or n	use co	ries T	OIII	UIL# Z	ين				
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-	00			1	1236	о D	rilling @	<u>v</u> ∪630	, no	шΓ														
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Ë	y 10			1	S	EE C	OST DE	TAIL P	AGE	UNDE	SEPAR	ATE CO	VER FO	OR ESTI	MATI	D DRY	HOLE	CO	STS					

	Engi	neering a	nd Supervis	sion	E	XAC	T En	gine	erir	ng, I	nc	•			(918	) 59	9-940	00 offi	ce	
Operat	_		as & Oil Co	of Utah, LLC	D	AILY	DRI	LLIN	G RI	<b>PO</b>	RT			- 2	24 hrs -	mid	night	to mic	inight	
02/12		WELL Wolv F	ed Arapien V	/allev 24-1	CONTRACTO	R SST	#68		Sann	STATE ete, UT	1	UD DATE 1/9/07		3-039	9-3003	n		RVISOR Maylo	- BD F	Rebsom
DAYS F/ SI	DO		PERATIONS @ 2400	Hour .	ТО	TAL DEPTH		PROGRES	s	DRILLING	TIME	ROP			TD FORM	IATION	1		DEPTH	
96	<u> </u>		Drillin	g		12,3		UD DAT	0	8.0	0	<u> </u>	7.50		Tor	owe	ap	<u> </u>	16,20	00
DATE/TII	ΛE	DEPTH	₩T	VIS	PV YF	,	GELS	FILTRATE		SOLIDS	SAND	PH	CHLOF	RIDES	CALCIUN	1	SALT	LCM		
2/12/8:0	0am	12366	8.5	70	19 3	ı	13/21	7.2	1	2.00	tr	10.2	12,5	500	300					
BIT BIT	SIZE	MFG.	TYPE IADC	SERIAL NO.	JETS 1/32	IN	OUT	FOOTAGE		ROP	MTR	RPM	WOB	_			DULL G	RADING	-	
RUN NO	0.500	OTO F4	CODE	ED4004	or TFA	10100	10000	10	1.00		Y/N	RT+MTR	00.40	IR O.O.		_	_	G/16		ASON PLD
30 25 31 26		STC F47		EB4694 DH1625	3X16 1-BK-2-18	12193	12206 12366	13 160	1.00	13.00 8.42	N Y	55.00 0-78	30-40 34-36		5 bt 8 VTE	-	2	In 1/16"	Bh:	Rate
32 27	8.500		0YOD 817	DH1625	1-13-2-18	-	1	6	1.00	6.00	Υ	0-78	14-34							
					<u> </u>	<u> </u>		<u> </u>	<u> </u>	#DIV/0!		<u> </u>		L			<u> </u>			
					T T	DRAULK		Т.							05	РТН	·		MP PSI	1
PUMP NO.	MANU	FACTURER		ROKE GAL/STI NGTH 95%	SPM (	GPM A	V DP AV	DC PU	1 1	TOR F PSI						PM		360 40		
1	Nat'l	10P130	5.5	10 2.94	110 3	323										1	ļ			
3	Nat'l	10P130	5.5	10 2.94	0	0										2	3	75		
3					110 3	0 323	142 1	42 15	50 1	25	888.54					3				
			RILL STRING	3		T				LOGIC					1		GEI	VERA	INFO	
воттом н	OLE ASSE	MBLY# 35	LENGTH	O.D.	I,D.													RIG IN		
Bit VertiTra			1.00 30.75		1	-										Man dlogg				79-2202 79-6005
vertima	К.		30.75	7.003		1		יבים			$\sim$		\	1	(1888) (1888)	ologi olpus	•			79-0005
float sub			2.45	6.750	2.81	]	CON	VFID	EIV I	IAL	H	= PC	ואינ		La	st B	OP Te	st		1/22
Filtersub	)		5.58	6.688	3.00	4											OP Te			2/21
26 spira	l vart		795.40	5.000	3.00	1									10,000		ofety N	/leeting	j	2/12
jar			32.62	<del>                                     </del>	2.75	1									· · · · · · · · · · · · · · · · · · ·			Pipe	Rams	2/12
4 spiral	wt.		120.95	5.000	3.00	]									La	st O	perate	Blind	Rams	2/12
STRING	ντ.	TOTAL BHA WT.	988.75 PU WT.	SO WT.	ROT. TORQUI	GRD. E	LEVATION	GL TO	KB KBE	LEVATION	SURF	CSG	INTO	CASING			perate CASING	Annu 2		2/11 D CSG
272,00	00	45,000	304,000	263,000	0	5	,554	26		5,580	13-3	/8@2017	9-5/8	'@10:	372	(7-5/8	3"@141	100)	(TD@	16200)
MD	INCL.	AZIMUTH	TVD A	i+/S-	SECTION	DLS T		URVEYS		иштн	_	TVD		N+	/S- F-	. / W-	SEC	CTION	DLS	TOOL
					<u> </u>						<u></u>						<u></u>			<u></u>
FROM	то	HRS	LAST 24	HOURS:			DAIL	Y ACTIV	/ITY											
0:00	7:00	7.00		& survey fr																
7:00	9:00	2.00		Bottoms u										1/8 y	yard of	ver	ry sm	all si	ze pee	gravel
9:00 15:00	15:00 16:00	6.00 1.00		o out 7 sta n filter sub					o oi ca	sirigV	VUIK	Dillia	ans							
	20:00	4.00	Trip i	nto 8339' (	got tight															
20:00	<b></b>	1.00		bit threw		from 83	339' to 8	347'												***************************************
21:00 22:30	22:30 23:00	1.50 0.50		nto 12315 n & ream f		5' to 12	366'													
23:00	0:00	1.00		& survey fr																
0:00				***************************************																
0:00			D:+ 11	27 E90VO	D CMITH	IDAC	ODE 0	17 Can	00.010	2//" h	iaaa	r in dia	mitar	tha	n hit #	25	8. # O	6		
0:00	<u> </u>			27 F80YO 26 TD74P					es are	3/4 D	yye	i iri dia	mier	uial	ı DIL#	<u>دن (</u>	x # 2	U		
0:00			The r	eason for	having to	work bi	it # 27 fr	om 833												
0:00				wider had																
0:00			<del></del>	down fron					ea to	0,UUU t	o go	aown	& 6,€	JUU T	o puli	up t	rirew	sam	e spot	
0:00				d & pumpe					6' will	have re	esult	s from	swee	ep @	0615	hoı	ur this	s moi	ning	
0:00																				
Daily T	otal	24.00	<u> </u>																	
			S	EE COST DI	TAIL PAG	E UNDE	R SEPAR	ATE CO	VER FC	R ESTI	MAT	D DRY	HOLE	COS	STS					

	Engi	neering	and Su	pervi	sion		l	EX	AC	T En	gine	erii	ng, I	nc				(:	918)	599	9-940	0 offi	ce	
		olverine	Gas & (	Oil Co	of Ut	tah, LLC			λILY	DRI	LLIN							24 h	ırs - ı	midı			lnight	
02/13	3/08		Fed Ara				CONTRAC		SST	#68			ete, UT	11	UD DATE 1/9/07		3-03		0030		DL I			Rebsom
DAYS F/ SI		PRESENT O						TOTA	L DEPTH 12,4	03	PROGRES	ss 21	DRILLING 23.			5.26		TD F	Torc			AUTH.	DEPTH 16,2	20
		Oile. Dii	ns up it	ווטונו	пр				12,4		UD DAT		20.	00		5.20		<u> </u>	TOIC	JWE	ap	<u> </u>	10,2	
DATE/TI	ΛE	DEPTH	,	NΤ	v	/IS P	v	ΥP		GELS	FILTRATE		SOLIDS	SAND	PH	CHLOF	RIDES	CAL	CIUM		SALT	LCM		
2/13-7:0	Dam	12414	8	1.5		70 1	8	32		13/20	6.8	1	2.00	tr	9.9	12,5	500	3	800	<u> </u>				
BIT BIT	SIZE	IMEG	TYPE	IADC	T e	ERIAL NO.	JETS 1/	22 I	IN	B OUT	IT DATA	-	ROP	MTR	RPM	WOB	·				DIII C	RADING		
RUN NO	U,ZL	Wir G.	1156	CODE			or TFA				TOOTAGE	1.001.0	1.0	Y/N	RT+MTR	WOB	IR	OR	DC	LOC		G/16	OC R	ASON PLD
30 25		STC F4			_	B4694	3X16		12193	12206	13	1.00	13.00	N	55.00	<b>i</b>		<del>! -</del>	bt	0	2	ln	Bh	
31 26 32 27		REEDTO		747	_	DH1625	1-BK-2	_	12206	12366	160	19.00	8.42	Y	0-78	34-36		8	VTB.	11-0	2	1/16"	P.	Rate
32 27	8.500	SICIF	80YOD	817	╁	DH1625	1-13-2-	-18	12366	12493	127	24.00	5.29 #DIV/0!	t	0-78	14-34	-	┝	-	-		-		
<b> -</b> -							<u> </u>	-IVDI	RAULIC	S	<u> </u>		#214/0:	<u> </u>	<u> </u>		<u></u>	<u></u>	I	<u> </u>	SLO	W PU	MP PS	
PUMP	MANU	JFACTURER	LINE	R S	TROKE	GAL/STK	SPM	GP		DP AV	DC PU	мр мс	TOR						DEF	тн		410		T
NO.					NGTH	95%							F PSI		0/00				SF	M		50		
1		10P130	5.5		10	2.94	110	32											1		-	00		
2	Nat'	10P130	5.5		10	2.94	0	0													5	00		
3							110	32	200000	42 14	42 15	50 1	25					.03	3	3		120010		
	43,85,63		DRILL S	STELLS!		00000000	1110	32 T	3   1	42 1	42 13		LOGIC							(88.66)	CEN	JEDA	INFO	
воттом н	OLE ASSI			IGTH	<del>"</del>	O.D.	I.D.	-				O.L.	20010						H		GL.	RIG IN		
Bit				1.0	0	8.500													Co I	Man			435-9	79-2202
VertiTra	k			30.7	5	7.063													Mud	llogg	ger		435-9	79-6005
					_		ļ	_		COM	IFID	FN	ΓΙΑΙ	RI	=PC	RT	1		Too	lpus	her		435-9	79-0544
float sub			<u> </u>	2.4	_	6.750	2.81			<u> </u>			-/			38888333	J		_		)P Te			1/22
Filtersub	)		-	5.5	8	6.688	3.00	<u>'</u>													OP Te			2/21
26 spira	l w/t		+	795.4	_	5.000	3.00														DP Dri	leeting	)	2/13
jar			<del> </del>	32.6		6.500	2.75	_														Pipe I	Rams	2/12
4 spiral	wt.			120.9	5	5.000	3.00															Blind		2/12
878478		TOTA		988.7															Las			Annu		2/11
STRING V	VI.	45,000	_	wt. 10	+	270	ROT. TOR	QUE		EVATION 554	GL TO 26	KB KBE	5,580	1	csg /8@2017		CASING		(7		CASING "@141			016200)
											URVEYS	3												
MD	INCL.	AZIMUTH	TVE		N+/S-	E+/W-	SECTION	DL	S TO	OOL N	ID IN	CL. AZI	митн	-	TVD		N+	/S-	E+ /	W-	SEC	TION	DLS	TOOL
ļ	-		┿	-		<del> </del>					_			-			├-		-		<u> </u>			
			<u> </u>			<u> </u>				DAII	Y ACTIV	//TV									<u> </u>			
FROM	TO	HRS	T	LAST 24	HOUR	S:			-	DAIL	YACII	/111												
0:00	14:30					irvey fro				152'														
14:30	15:00	0.50	<b>_</b>			e, 1245																		
15:00 23:30	23:30 0:00	8.50 0.50	-			rvey 12 ondition	***************************************																	
0:00	0.00	0.50	$\vdash$	OII C.	O. C	OHURROL	i ioi bil	·ιιμ	······································															
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0:00	<del> </del>	<u> </u>		6:30	am	POOH	<u>@ 413</u>	4, F	ad 40	к drag t	nru csr	ng. @	5345											
0:00	<del> </del>		+																					
Daily To	tal	24.00	†			·····									** **				-					
				S	EE C	OST DE	TAIL PA	ŒΕ	UNDEF	SEPAR	ATE CO	VER FC	R ESTI	MATE	D DRY	HOLE	CO	STS						

	Engi	neering	and Su	pervis	ion			E)	(AC	T En	gine	erir	ng, I	nc				(91	8) 59	99-9	9400 offi	ce		
		olverine/	Gas & (	Oil Co	of Ut	ah, LLC				DRI	LLIN							24 hrs	- mic		ght to mic	Inight		
02/14		WELL	ed Ara	noien V	'alle	v 24-1	CONTRA	CTOR	SST	#68		COUNTY,	STATE ete, UT	i i	UD DATE  /9/07	1	3-039	9-300	30	- 1	SUPERVISOR DL. Naylo	- BD F	Rebsom	
DAYS F/ SI		PRESENT (	PERATION			,		TOT	AL DEPTH		PROGRES	s	DRILLING	TIME	ROP			TD FQF	MATIO	N	AUTH.	DEPTH		
98	3	W&R to	btm.					<u> </u>	12,4		UD DAT	0	0.0	0	#	DIV/0!		10	orow	eap	2	16,20	00	
DATE/TI	ME	DEPTH	,	WT	V	is P	v i	ΥP		GELS	FILTRATE		SOLIDS	SAND	PH	CHLO	RIDES	CALCI	JM	SAL	LT LCM			
2/14-8:0	0am	12493	3	3.6	6	7 1	7	35		13/21	5.6	1	2.50	tr	9.4	16,0	000	360						
BIT BIT	SIZE	MFG.	TYPE	IADC	T se	ERIAL NO.	JÉTS 1	/32	IÑ	E OUT	IT DATA		ROP	MTR	RPM	WOB				DIJ	ILL GRADING			
RUN NO				CODE	<u> </u>		or TF/	۹.					ļ	Y/N	RT+MTR	ļ	IR		C LO	C	B/S G/16		ASON PLD	
30 25 31 26	8.500 8.500	STC F4		627 747	+	B4694 0H1625	1-BK-2		12193 12206	12206 12366	13 160	1.00	13.00 8.42	N	55.00 0-78	30-40	<del>                                     </del>		ot o	-	2 In 2 1/16"	Bh	a Rate	
32 27	8.500		80YOD	817	+	J7024	1-13-2			12493	127	24.00	5.29	Ÿ	0-78	14-34	+		-	_	3 3/16		rque,p/r	
33 28	8.500	STC F	80YOD	817	F	J7023	3 x 1	5	12493				#DIV/0!	Υ	0-65	28								
	······			······		······································		HYD	RAULIC	s											LOW PU	VIP PS		
PUMP NO.	MANL	IFACTURER	LINE		ROKE NGTH	GAL/STK 95%	SPM	GI	PM AV	DP AV	DC PU		TOR F PSI					ŀ	SPM	+	12410 50		-	
1	Nat'	10P130	5.5		10	2.94	104	30	06										1		500			
2	Nat'	10P130	5.5	; ·	10	2.94	0		0									_	2		500			
3					2000		104	_	0 06 1	40 T 4	42 14	00 1	25						3					
			DRILL S	STRING			104		06   1	42 1	42   14		LOGIC					- 8		7	GENERAI	INFO		
воттом н	OLE ASSI			VGTH	Ī	O.D.	I.D.					U.L.	200.0								RIG IN			
Bit				1.00	+	8.500													о Ма			435-9	79-2202	
VertiTra	k		ļ	31.75	<u> </u>	7.063	ļ										1	800	udlog	-			79-6005	
float sub	)		+	2.45		6.750	2.81			CON	<i>IFID</i>	EN7	<i>FIAL</i>	Rl	EPC	R7			oolpu ast B		Test	435-9	79-0544	
Filtersuk			5.58 6.688				3.00														P Test		2/21	
Filtersut	)		5.69 6.875				3.00	<del></del>											ty Meeting	2/14				
26 spira	l wt.		<del> </del>	795.40 32.62	1-	5.000	3.00 2.75														Drill	Zomo	2/14	
jar 4 spiral	wt.			120.95	+	6.500 5.000	3.00													•••••	perate Pipe Rams 2 perate Blind Rams 2			
		TOTA		995.44														ī	ast C	per	rate Annu	ar	2/14	
STRING V		вна wт. 45,000	-	1WT.	<del>                                     </del>	so wt. 270	ROT. TOP	RQUE		EVATION 554	GL TO		LEVATION 5,580		csg /8@2017		"@10	_			SING 2 014100)		DD CSG (2000)	
				-						s	URVEYS	5												
MD	INCL.	AZIMUTH	TVI	) N	+/S-	E+/W-	SECTION	D	LS TO	OOL N	ID IN	CL. AZI	МИТН	-	TVD		N+	/S-	E+ / W-	Ŧ	SECTION	DLS	TOOL	
<b></b>	<del> </del>		·	+				<del>                                     </del>			_			$\vdash$			<del> </del>			$\dagger$			<u> </u>	
										DAIL	Y ACTI	/ITY			***************************************									
0:00	1:00	1.00		Circ		s: onditior	for hi	t trii	n															
1:00	2:30	1.50								pump 4	0-50K v	with ou	t.									·		
2:30	8:30	6.00		Drain	std	l. pipe 8	& hose	PC	ЮН															
8:30	9:30	1.00	╂			bit & ve					flow	drouli	hose	The	n fill o	. nuro								
9:30 16:30	16:30 22:30	7.00 6.00	+							e rotary u collap				1116	::::III 6	, purg	ıc.		_					
22:30	0:00	1.50								to 1249														
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				S	E C	OST DE	TAIL P	\GE	UNDEF	SEPAR	ATE CO	VER FO	R ESTI	MATE	D DRY	HOLE	COS	STS						

	Engi	neering	and Su	pervis	ion			ΕX	(AC	T En	gine	eri	ng, I	nc				(9	18)	599	-940	0 offi	ce	
	or: W	/olverine	Gas & C	Oil Co c	of Ut	ah, LLC		D/	AILY	DRI	LLIN	G R	EPO	RT			:	24 hr	s - n	nidn	ight 1	o mic	Inight	
DATE 02/1	5/08	WELL Wolv I	ed Ara	pien V	alle	v 24-1	CONTRAC	TOR	SST	#68		COUNTY,	STATE ete, UT		UD DATE 1/9/07	f	3-039	9-30	030	- 1	SUPER DL N		- RD F	lebsom
DAYS F/ SI		PRESENT C	PERATION	S @ 2400	Hour		for hit	TOTA	L DEPTH	ne	PROGRES	s	DRILLING	TIME		•		TD FO	ORMA'	TION			DEPTH	
99		Circ.	BOLLOTT	ıs up t	nen	trip out	IOI DIL		12,5		UD DAT	02 A	22.	50	<u> </u>	4.53		<u></u>	oro	wea	ар	<u> </u>	16,20	10
DATE/TII		DEPTH	+	VT	V			ΥP		GELS	FILTRATE	CAKE/32	·	+	-	CHLOP		CALC		S	ALT	LCM		
2/15-8:1	bam	12517	8	.6	6	3 1	B	33		13/20	6.0	1	2.50	tr	9.9	15,8	300	35	50			<u> </u>		
BIT BIT	SIŻE	MFG.	TYPE	IADC	SE	RIAL NO.	JETS 1/ or TFA		IN	OUT	FOOTAGE		ROP	MTR Y/N	RPM RT+MTR	WOB	iR	OR	DC	LOC	DULL GF B/S		OC L PE	ASON PLD
30 25	8.500	STC F4	7ODPS	627	E	B4694	3X16		12193	12206	13	1.00	13.00	N		30-40	_	5	bt	0	2	In	Bha	
31 26		REEDTO		747	+	H1625	1-BK-2	_	12206	12366	160	19.00	8.42	Υ	0-78	34-36	-	-		_	2	1/16"		Rate
32 27 33 28	8.500 8.500	<del> </del>	BOYOD BOYOD	817 817	<del> </del>	7J7024 7J7023	1-13-2- 3 x 1	_	12366 12493	12493 12595	127 102	24.00	5.29 4.53	Y	0-78 0-76	14-34 26-37	-	8 1	/TB	1-0	3	3/16	-	que,p/r que,p/r
									RAULIC	J											SLO	V PUI	MP PSI	47
PUMP	MANU	JFACTURER	LINE		ROKE	GAL / STK	SPM	GP	M AV	DP AV			OTOR						DEP		125			
NO. 1	Nat'	10P130	5.5		IGTH	95% 2,94	110	32	3		PRI	ESS. DIF	F PSI						1	$\dashv$	5 50	_		
2		10P130	5.5		10	2,94	0	0										Ì	2	:	50	00		
3					3333	0.80.5.40	440	0		.		T	I						3		\$38 <b>5</b> 6	0288088	 	
			I DRILL S	TRING			110	32	3   1	42 14	12   15		LOGIC								GEN	FRAI	. INFO	
воттом н	OLE ASS			IGTH		O.D.	I.D.															RIG INF		
Bit				1.00	-	8,500		_											Co N					79-2202
VertiTra	K		┼	31.75	$\vdash$	7.063	l	$\dashv$			ıcın	F-	TIAI			\	1		Mudi Tool					79-6005 79-0544
float sub	)			2.45		6.750	2.81			CON	N-IU	EIN	IAL	H	EPC	ו אינ	]			`	P Tes	st		1/22
Filtersul			<u> </u>	5.58	+	6.688	3.00	-										2200 B			P Te			2/21
Filtersul 26 spira			<del>                                     </del>	5.69 795.40	+	6.875 5.000	3.00	-													ety M		ł	2/15 2/14
jar				32.62 6.500																	erate		Rams	2/14
4 spiral	wt.		+	120.95	000000	5.000	3.00													<u> </u>			Rams	2/14
STRING	NT.	TOTAI BHA WT.		995.44 wt.		SO WT.	ROT. TOR	QUE	GRD. EL	EVATION	GL TO	кв кв	LEVATION	SURF	CSG	INTO	CASING				erate ASING:			2/14 o csg
292,0	00	45,000	315	,000	2	71,000	0		5,	554	26		5,580	13-3	/8@2017	9-5/8	<u>'@10</u> :	372	(7	-5/8"	@141	00)	(TD@	16200)
MD	INCL.	AZIMUTH	TVD	N-	+/S-	E+ / W-	SECTION	DL	s To		URVEY:		митн		TVD		N+	/S·	E+/	W-	SEC	TION	DLS	TOOL
ļ		<u> </u>	<u> </u>						_	_				<del> </del>			ļ							
	<u> </u>	<u> </u>	<u> </u>			L	<u> </u>			DAII	Y ACTIV	/ITY												<u> </u>
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0:00			-	Mixec	1 & 1	pumped	d 80 bb	ol 10	8 vis s	sweep (	@ 1255	8' bro	ught ba	ick v	ery fev	v extr	a cu	itting	js					
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				SE	ΕC	OST DE	TAIL PA	GE	UNDER	SEPAR	ATE CO	VER FO	R ESTI	MATE	D DRY	HOLE	COS	STS"						

		Engi	neering	and Su	pervi	sion	,		E)	XAC	T Er	gin	eeri	ng,	Inc	; <u>.</u>			(91	8) 5	99-9	9400 offi	ce	
		or: V	/olverine	Gas & (	Oil Co	of U	tah, LLC				' DRI	LLIN						- 2	24 hrs	- mi		ght to mic	Inight	
	2/16		WELL	Fed Ara	apien \	/alle	y 24-1	CONTRA	CTOF	SST	#68		COUNTY, Sanp	STATE ete, U		1/9/07		3-03	9-300:	30	- 1	upervisor DL Nayloi	- RD	Rebsom
DAYS	F/ SP		PRESENT Drilling	OPERATION	iS @ 2400	Hour			TOT	AL DEPTH 12,6	41	PROGRE	ss 46	1	NG TIME .50	ROP	8.36		TD FOR	MATIC			DEPTH 16,2	00
	100		Draining							12,0		UD DAT		1 3	.50		0.30		10	II OW	eap	<u>, T</u>	10,2	.00
DAT	E/TIM	E	DEPTH	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	ΝT	\	/iS F	PV	ΥP		GELS	FILTRATE		SOLID	S SANI	) PH	CHLO	RIDES	CALCIL	М	SAL	T LCM		
2/16-	8:30	am	12595	<u> </u>	3.6	7	78 1	9	36		14/22	5.6	1 1	2.50	) tr	9.5	16,	500	380	<u>J</u>				
B≀T	BIT	ŞIZE	MFG.	TYPE	IADC	s	ERIAL NO.	JETS 1	/32	IN	OUT	FOOTAGE	A ET HOURS	ROP	MTF	RPM	WOB	T			DU	ILL GRADING		
RUN	NO.		270		CODE	╀		or TF	A		ļ	ļ	ļ	ļ	Y/N	RT+MTF		IR		C LC	oc :	B/S G/16		EASON PLD
-		8.500 8.500	-	80YOD	817 817	+	PJ7023 PG4038	3X1 2X18-1		12493 12595	12595	102 46	22.50 5.00	9.20	+-	0-78 0-70	24-35	-	8 B	<u> </u>	╀	E 1/16"	P.	Rate-Pres
34	23	0.500	310 1	8010D	017	+	-G4036	2/10-1	טול	12030	<del> </del>	1 40	3.00	#DIV/0	+	0-70	22-20	_	$\dashv$	+	+	_	$\dashv$	
														#DIV/0							T			
									HYC	RAULIC	S										S	LOW PU	MP PS	ı
PUN	- 1	MANL	JFACTURER	LINE		ROKE	1	SPM	G	PM A	/ DP A	- 1		OTOR						SPM	4	12603		<del> </del>
NC 1	$\neg$	Nat'	I 10P130	5.5	-	NGTH 10	95% 2.94	102	3	00		PH	RESS. DH	F PSI						1	+	50 475		<u> </u>
2			I 10P130	5.5		10	2.94	0	-	0									-	2	$\dagger$	475		
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00770		V.F. 400	EMBLY# 3	DRILLS		<u> </u>		T		.66.0000	43344664		GEC	DLOGIC		444		8 8 8 8 8 8 8 8 8	***			GENERAL		)
Bit	NI HC	ILE ASS	EMBLY# 13	C LEP	NGTH 1.00		O.D. 8.500	I,D,											c	o Ma	เท	RIG INF		79-2202
Verti	Trak	(			31.75	5	7.063												м	udlog	gger	r	435-9	979-6005
											COI	VFIC	)FN	ΓΙΑΙ	R	FP(	)R7	-	T	oolpu	ıshe	er	435-9	79-0544
float					2.4	+	6.750	2.8			<u> </u>	••••						J				Test		1/22
Filter				-	5.58 5.69	-	6.688 6.875	3.0														P Test ty Meeting		2/21
26 s					795.40	-	5.000	3.0													_	Drill	,	2/14
jar					32.62	2	6.500	2.7	5										Ŀ	ast C	Oper	rate Pipe I	Rams	2/14
4 spi	iral v	vt.			120.9	150000	5.000	3.0	0													rate Blind		2/16
STR	NG W	т.	TOTA BHA WT.		995.44 WT.	1	SO WT.	ROT. TO	RQUE	GRD. E	LEVATION	GL TO	кв кв	LEVATIO	N SUR	- CSG	INT	CASING				rate Annu SING 2		2/14 OD CSG
2	293		45,000	3	16		273	0		5,	554	26		5,580	13-3	3/8@201	7 9-5/8	"@10:	372	(7-5	/8"@	14100)	(TD	@16200)
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ME		INCL.	AZIMUTH	TVE	<del>`   `</del>	I+/S-	E+/W-	SECTION	-	DLS T	OOL !	MD IN	NCL. AZ	MUTH	_	TVD		N+	/S- 1	+ / W-	+	SECTION	DLS	TOOL
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:3	_	1:30	1.00				ıt 6 star																	
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9:0		10:30 14:30		<del>                                     </del>			<u>na rams</u> 10239'	s-cnan	ge I	DIES-CIE	an filte	SuD-S	ervice	ig-top	urive	<del></del>								
14:		16:00		<del>                                     </del>			it 150' c	drlg line																
16:		17:00			Blee	d air	r out of	hyd. L	ines		o drive-		12523	3'										
17:		18:30		_							clean bo	ottom												
18:	_	0:00	5.50	-	Drill 1	ron	12595	to 12	641	•														
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0:0				<b>-</b>	Wt. c	n tr	rip in to	ok wt.	@ 8	3339' p	ull up tı	urn 1/8	turn re	peat c	on 8th	try it	went o	dowr	n with	8-1	000	00 set d	own v	vt.
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0:0				1	6:30	am	drilling	@ 126	90												_			
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Dail	у То	tal	24.00	1												·								
1					S	EE C	OST DE	TAIL P	AGE	UNDE	SEPAR	ATE CO	VER FO	R EST	IMAT	ED DRY	HOLE	COS	STS					

	Eng	ineeri	ng ai	nd Su	pervis	sion			E)	(A(	CT	En	gine	erii	ıg, I	nc				(91	8) 5	599	-9400 of	fice	
<u> </u>	Operator: Wolverine Gas & Oil Co of Utah, L  DATE WELL  02/17/08 Wolv Fed Arapien Valley 24-										Y D	RII	LIN						2	24 hrs	- m		ight to m		t
02/1	7/08	Wo					y 24-1	CONTRA	CTOR		T #68			COUNTY, Sanp	state ete, UT		UD DATE 1/9/07	ı	3-039	9-300	30	- 1	SUPERVISOR DL Naylo		Rebsom
DAYS F/	SPUD <b>01</b>	PRESE Trip 1			S @ 2400	Hour			TOT	AL DEPTI	<sup>∺</sup> .768		PROGRES	ss 27	DRILLING		i .	6.68		TD FOR	Orov			I. DEPT	1 200
		Tinb	01 01		**				<u> </u>	12,	700	MU	JD DAT		1 13.			0.00		'''	J10V	vea	<u>.</u>	10,	200
DATE/		DEPTI	-		VT	-		•v	ΥP		GELS		FILTRATE	·		SANE	+	CHLO		CALCII		SA	ALT LCM	_	
2/17-8:	30am	1259	5	8	1.6	6	8   1	5	42		15/2		5.8	1 1	2.50	tr	9.5	16,	500	400	1			<u> </u>	
BIT BIT		MFG.	Ť	YPE	IADC	SE	ERIAL NO.	JETS 1		IN			FOOTAGE		ROP	MTR	RPM	WOB					ULL GRADING		
33 28		0 STC	F80	OYOD	CODE 817	F	PJ7023	or TF 3X1		1249	3 12	595	102	22.50	4.53	Y/N Y.	RT+MTR 0-78	24-35	7.0			OC A	B/S G/16 E 1/16		REASON PLD  P.Rate-Pres
34 29	8.50	о ѕтс	F80	OYOD	817	Р	G4038	2X18-1	BK.	1259	5 12	768	173	24.50	7.06	Y.	0-78	22-30	-					П	
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float su Filtersu			$\dashv$		2.45 5.58	+	6.750 6.688	2.8 3.0			Ľ								J	333 <b>-</b>			P Test P Test		2/21
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26 spir	al wt.				795.40		5.000	3.0	)											Ī	.ast	воі	P Drill		2/14
jar 4 opiro	1				32.62 120.95	+	6.500 5.000	3.0												33.5			erate Pipe erate Blind		
4 spira	WL.	ТО	TAL		995.44	1000000	5.000	3.0												- C		_	erate Anni		2/14
\$TRING 295,0		8HA W			wt.	_	so wt. 275,000	ROT. TO	RQUE		ELEVAT	ION	GL TO 26	кв кве	LEVATION 5,580	_	csg /8@2017	+	CASING				ASING 2 @14100)	+	ROD CSG D@16200)
295,0	000 [	45,00		- 510	,,000		.70,000				3,334	S	URVEY!	3	3,300	10-0	70@2017	3-3/0	@ 10c	3,2	(/-	3/0 (	<u>@14100)</u>	1 / ' '	J@ 10200)
MD	INCL	. AZIM	JTH	TVD	N	I+/S-	E+/W-	SECTION	D	LS	TOOL	М	D IN	CL. AZI	МИТН	<b>I</b>	TVD		N+:	/S-	E+/V	V-	SECTION	DLS	TOOL
<u> </u>	+		-		_			<u> </u>		-		╫┈				╁╌			$\vdash$	$\dashv$		┪		$\vdash$	
							1	<u> </u>	_			DAIL	Y ACTIV	/ITY					1						<del>- 1</del>
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21:00	0:00	3.0	0				o 1028					ow k	elly ho	se dry	trip	out									
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0:00	-		$\Box$		Trip	out f	rom 12	786' to	sh	oe di	d not	half	to use	pump											
0:00		-			At 83	47'	pulled:	tight se	et do	own fi	urn 1	/8 tu	rn repe	eat on t	ourth t	try ni	ılled t	rew v	with	8-10	.000	ე ი	ver strin	a wt	
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24 20s le

En	nginee	ering a	nd Sup	pervis	ion						ngin				•			(9	18)	599	-940	0 off	ice	
Operator:			as & O	il Co d	of Uta	h, LLC			<b>ILY</b>	DF	RILLIN							24 hi	rs - n				dnight	
DATE 02/18/08	B V		ed Arap	oien V	allev	24-1	CONTRA	CTOR	SST	#68		Sano	STATE ete. UT	1	UD DATE 1/9/07		3-03	9-30	030		SUPER DI N		r- RD	Rebsom
DAYS F/ SPUD			ERATIONS	@ 2400	Hour	<u>८</u> नः।	1	TOTAL	. DEPTH	···	PROGRE	SS	DRILLING	TIME			<u> </u>		ORMAT	FION	<u> </u>		DEPTH	1000011
102				Drillin	g				12,8	35		67	9.5	0	ļ	7.05			Toro	wea	ар		16,2	200
DATE/TIME	DE	PTH	w	T	Vi	S P	v I	ΥP		GELS	MUD DAT		SOLIDS	SAND	PH	CHLO	RIDES	CAL	CIUM	s	ALT	LCM	1	
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BIT BIT SIZ	ZE MFG	ì.   1	TYPE	IADC CODE	SE	RIAL NO.	JETS : or TF		IN	OU	T FOOTAG	HOURS	ROP	MTR Y/N	RPM RT+MTR	WOB	IR	OR	DC		B/S	ADING G/16		REASON PLD
33 28 8.5	500 ST	FC F8	OYOD	817	P.	J7023	3X1	5	12493	125	95 102	22.50	4.53	Y.	0-78	24-35	7.0	8	вт	Α	E	1/16'	' Р.	Rate-Pre
34 29 8.5			OYOD	817	<del> </del>		2X18-1	_	12595	127		24.50		Υ.	0-78	22-30	-	6	WBT	0-1	E	1/32	' Р.	Spikes
35 30 8.5	500 ST	C F8	OYOD	817	P	F7964	2X18-1	І-ВК	12768	┼	67	9.50	7.05	Υ.	0-78	28-35	-	Н		-		_	<del></del>	
		<u> </u>			!		<u> </u>	HVDE	AULIC	<u> </u>			#DIV/0!	<u> </u>	<u> </u>	<u></u>	<u> </u>				SI (1)	V BIT	MP PS	3
PUMP M	MANUFAC	TURER	LINER	STF	ROKE	GAL/STK	т	GPN		V DP	AV DC P	UMP M	OTOR						DEP		127		111111	<u>"</u>
NO.					NGTH	95%							FF PSI	011-011-011-011	**************	unonooneese	mananaan	STONE ST	SPI	М	5			
	Vat'l 10		5.5		10	2.94	111	320											1	-	47			
2 N	Nat'l 10	P130	5.5	-	10	2.94	0	0											2	-	47	'5		-
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1.0. 00.0000 p. 0.000	- Children Colores	D	RILL S	TRING			1	T					DLOGIC						000000000	:20200E	GEN	ERA	LINFO	)
OTTOM HOLE A	ASSEMBL	.y# <b>39</b>	LENG	ЭТН		O.D.	I,D.															RIG IN	FO	
3it				1.00		3.500	ļ												Co M	/lan				979-2202
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loat sub				2.45	-	6.750	2.8	1		CC	NFIL	)EN	TIAL	Rl	EPC	R7			Toolg Last		ner P Tes	t t	435-	979-0544 1/22
Filtersub				5.58	_	6.688	3.0			·							J				P Tes			2/21
Filtersub				5.69	e	3.875	3.0	0											Last	Saf	ety M	eetin	g	2/18
26 spiral wt.	-		•	795.40	<del> </del>	.000	3.0	-													P Dril			2/14
ar				32.62	<del>                                     </del>	5.500	2.7																Rams	2/14
4 spiral wt.	7	TOTAL		120.95 995.44	200	5.000	3.0	U													erate .		Rams lar	2/18
STRING WT.	BHA	A WT.	PU V	NT.		O WT.	ROT. TO	RQUE	GRD, EI	LEVATIO	N GL TO	кв кв	ELEVATION	1			CASING	_		INT C	ASING 2	2	PŔ	OD CSG
295,000	45,	,000	320,	000	27	6,000	0		5,	554	26		5,580	13-3	/8@2017	9-5/8	"@10	372	(7-	-5/8"	@1410	00)	(TD	@16200)
MD INC	CL. AZ	ZIMUTH	TVD	N-	+/S-	E+/W-	SECTION	DLS	з т	OOL	SURVEY		IMUTH		TVD		N+	/S-	E+ / 1	w-	SEC	TION	DLS	TOOL
							<u> </u>	<u> </u>			ii						<u> </u>							
FROM TO	o	HRS		AST 24 F	OURS	:				D	AILY ACTI	VITY	***************************************											
0:00 6:0		6.00	-	Trip o	ut-w	ork bli																		
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0:00																								
0:00	-		l																					
				12870	0' Dr	illing @	@ 0530	) hou	ır								_					R	FC	:FIV
0:00 0:00				1287	0' Dr	illing @	@ 053(	) hou	ır															EIV



### WOLVERINE GAS AND OIL COMPANY

OF UTAH, LLC

Energy Exploration in Partnership with the Environment

April 9, 2008

CONFIDENTIAL

Mr. Gil Hunt Utah Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, Utah 84114-5801

Re: Reporting Forms - Wolverine Gas and Oil Company of Utah, LLC

Wolverine Federal Arapien Valley 24-1 (UDOGM Sundry Notice)

Dear Mr. Hunt:

Wolverine Gas and Oil Company of Utah, LLC respectfully submits the enclosed Sundry Notice (Form 9) in duplicate for the Wolverine Federal Arapien Valley 24-1 well. It is to provide updated status of activity for the well.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information relating to this well.

Sincerely,

Ellis M. Peterson

Senior Production Engineer

Wolverine Gas and Oil

RECEIVED

APR 1 0 2008

DIV. OF OIL, GAS & MINING

FORM 9 STATE OF UTAH **DEPARTMENT OF NATURAL RESOURCES** 5. LEASE DESIGNATION AND SERIAL NUMBER: DIVISION OF OIL, GAS AND MINING UTU-80907 6. IF INDIAN, ALLOTTEE OR TRIBE NAME: SUNDRY NOTICES AND REPORTS ON WELLS NA 7. UNIT or CA AGREEMENT NAME: Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals. Wolverine Federal Unit 8. WELL NAME and NUMBER: 1. TYPE OF WELL OIL WELL 🔽 GAS WELL OTHER Wolv. Fed. Arapien Valley 24-1 2. NAME OF OPERATOR: Wolverine Gas and Oil Company of Utah, LLC 4303930030 10. FIELD AND POOL, OR WILDCAT: 3 ADDRESS OF OPERATOR PHONE NUMBER: CITY Grand Rapids STATE MI 7IP 49503-2616 55 Campau NW (616) 458-1150 Wildcat 4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331' FNL, 549' FWL COUNTY: Sanpete QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 24 208 1E S STATE: UTAH CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA 11. TYPE OF SUBMISSION TYPE OF ACTION DEEPEN ACIDIZE REPERFORATE CURRENT FORMATION NOTICE OF INTENT (Submit in Duplicate) ALTER CASING FRACTURE TREAT SIDETRACK TO REPAIR WELL Approximate date work will start: CASING REPAIR NEW CONSTRUCTION TEMPORARILY ABANDON CHANGE TO PREVIOUS PLANS OPERATOR CHANGE TUBING REPAIR CHANGE TUBING PLUG AND ABANDON VENT OR FLARE SUBSEQUENT REPORT CHANGE WELL NAME PLUG BACK WATER DISPOSAL (Submit Original Form Only) WATER SHUT-OFF CHANGE WELL STATUS PRODUCTION (START/RESUME) Date of work completion: COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE OTHER: Activity Update CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATION DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. The drilling rig was released on 2/28/2008 and moved off location. The location was prepared for completion activities and construction of a temporary production testing facility was initiated. A completion rig moved to the well on 4/7/2008 and is currently drilling out the stage collar and cement in preparation of perforating and testing. NAME (PLEASE PRINT) Ellis M. Peterson Senior Production Engineer TITLE 4/9/2008 DATE

(This space for State use only)

RECEIVED

# CONFIDENTIAL

5. LEASE DESIGNATION AND SERIAL NUMBER:

FORM 9

### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

,		UTU-80907
SUNDRY NOTICES AND REPORTS ON N	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom- drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such	hole depth, reenter plugged wells, or to proposals.	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit
1. TYPE OF WELL OIL WELL 🗹 GAS WELL 🗌 OTHER	······	8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
2. NAME OF OPERATOR:		9. API NUMBER:
Wolverine Gas and Oil Company of Utah, LLC		4303930030
3. ADDRESS OF OPERATOR: 55 Campau NW CITY Grand Rapids STATE MI ZIP 49503-	2616 (616) 458-1150	10. FIELD AND POOL, OR WILDCAT: Wildcat
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331' FNL, 549' FWL		COUNTY: Sanpete
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 24 20S 1E S		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATI	URE OF NOTICE, REPOF	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
NOTICE OF INTENT	EPEN	REPERFORATE CURRENT FORMATION
(Submit in Duplicate) ALTER CASING FRA	ACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start: CASING REPAIR NET	N CONSTRUCTION	TEMPORARILY ABANDON
CHANGE TO PREVIOUS PLANS OPE	ERATOR CHANGE	TUBING REPAIR
_	IG AND ABANDON	VENT OR FLARE
SUBSEQUENT REPORT CHANGE WELL NAME PLL (Submit Original Form Only)	IG BACK	WATER DISPOSAL
	DDUCTION (START/RESUME)	WATER SHUT-OFF
COMMINGLE PRODUCING FORMATIONS REC	CLAMATION OF WELL SITE	✓ отнек: Activity Update
CONVERT WELL TYPE REC	COMPLETE - DIFFERENT FORMATION	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent de	tails including dates, depths, volumes	s, etc.
The drilling rig was released on 2/28/2008 and moved off location. temporary production testing facility was constructed. A completion cement were drilled out, a CBL was run, and perforations were shounknown quantity of Hydrogen Sulfide (H2S) in the gas initially proimmediately shut in. Production testing will resume after safety equas necessary. Actual H2S concentration will be measured and reposition of the production of	n rig moved to the well on 4 ot 6 SPF at 12,373' - 12,38 duced from the perforated sipment and training are co	4/7/2008. The stage collar and 0'. There were indications of an interval so the well was emplete and facilities are modified
NAME (PLEASE PRINT) Ellis M. Peterson	Senior Production	Engineer
SIGNATURE COLONIA MILES Y	DATE 4/24/2008	A 8 4 14 1
This space for State use only)		RECEIVED

DIV. OF OIL, GAS & MINING

MAY 0 1 2008



### WOLVERINE GAS AND OIL COMPANY

OF UTAH, LLC

Energy Exploration in Partnership with the Environment

April 29, 2008

Al McKee BLM Utah State Office PO Box 45155 Salt Lake City, Utah 84145-0155 United States of America

RE: Sundry Notice - Wolverine Gas and Oil Company of Utah, LLC

Wolverine Federal Arapien Valley 24-1 Covenant Field, Sanpete County, Utah

Dear Mr. McKee.

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) respectfully submits the enclosed Sundry Notice in triplicate as a 5-Day production notice for the subject well. The Sundry Notice also addresses gas flaring, the presence of Hydrogen Sulfide gas, and immediate plans related to testing of the subject well.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information relating to this well. Feel free to contact me at (616) 458-1150 if you have any questions or need additional information.

Sincerely,

Ellis Peterson

Sr. Production Engineer

Wolverine Gas and Oil Company of Utah, LLC

cc w/ attachment: Gil Hunt, UDOGM

RECEIVED
MAY 0 5 2008

Form 3160-5 (April 2004)

3a Address

1. Type of Well ☐ ☐

## UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

#### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

Other

Gas Well□□

2. Name of Operator Wolverine Gas and Oil Company of Utab, LLC

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

55 Campau NW, Grand Rapids, MI 49503

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

DAPHOS. IVILLION 51, 2007
5. Lease Serial No.
UTU-80907
6. If Indian, Allottee or Tribe Name
NA.
7. If Unit or CA/Agreement, Name and/or No.
 Wolverine Unit
8. Well Name and No.
Wolverine Federal Arapien Valley 24-1
9. API Well No.
43-039-30030

10. Field and Pool, or Exploratory Area

Wildcat

11 County or Parish State

2331' FNL, 549' FWL, Sec. 24	, 1208, RIE, SLB&M			11,,	,
				Sanpete County	y, Utah
12. CHECK A	PPROPRIATE BOX(ES) T	O INDICATE NATUR	E OF NOTICE, RE	EPORT, OR OTHE	R DATA
TYPE OF SUBMISSION		TYI	E OF ACTION		
Notice of Intent  ✓ Subsequent Report  Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (Star Reclamation Recomplete Temporarily Aba Water Disposal	We □_Oth	ter Shut-Off Il Integrity ner

3b. Phone No. (include area code)

616-458-1150

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Oil production in saleable quantities was recovered during testing of a perforated interval at 12,373' - 12,380' in the Navajo2 Formation (Subthrust and below Kaibab Formation) on April 25, 2008. Field measurements indicate that the Oil gravity was 54 degrees API and that the associated gas had Hydrogen Sulfide content of approximately 700 ppm. Approximately 284 MCF of gas was flared during the 16-hour flow test. Operations are now in progress to isolate the perforations at 12,373' - 12,380' below a CIBP to be set at 12,369', and to dump bail 2 sacks of cement on top of the CIBP. It is then planned to perforate and flow test another Navajo2 interval at 12,290' - 12,316'.

**COPY SENT TO OPERATOR** 

Accepted by the Utah Division of Oil, Gas and Mining

Federal Approval Of This Action Is Necessary

Date: <u>5 · 28 · 2008</u>
Initials: K5

Date: \$ 123 108

By: 15/108

RECEIVED
MAY 0.5 2008

DIV. OF OIL, GAS & MINING

04/29/2008

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)

Ellis Peterson

Title Sr. Production Engineer

Date

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by Title

Approved by

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Date

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

## CONFIDENTIAL

STATE OF UTAH

FORM 9

	DIVISION OF OIL, GAS AND MI			5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907
SUNDR	Y NOTICES AND REPORTS	S ON WELL	S	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill drill horizontal	new wells, significantly deepen existing wells below cur laterals. Use APPLICATION FOR PERMIT TO DRILL f	rrent bottom-hole depth, form for such proposals.	reenter plugged wells, or to	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit
1. TYPE OF WELL OIL WELL				8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
<ol><li>NAME OF OPERATOR: Wolverine Gas and Oil Co</li></ol>	ompany of Utah. LLC			9. API NUMBER: 4303930030
3. ADDRESS OF OPERATOR: 55 Campau NW Cr			HONE NUMBER: 616) 458-1150	10. FIELD AND POOL, OR WILDCAT: Wildcat
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331'	FNL, 549' FWL		county: Sanpete	
QTR/QTR, SECTION, TOWNSHIP, RAI	NGE, MERIDIAN: SWNW 24 20S 1	iE S		STATE: UTAH
11. CHECK APP	ROPRIATE BOXES TO INDICAT	ΓΕ NATURE Ο	F NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYP	E OF ACTION	
☐ NOTICE OF INTENT	ACIDIZE	DEEPEN		REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	ALTER CASING	FRACTURE TR	REAT	SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR	NEW CONSTR	UCTION	TEMPORARILY ABANDON
	CHANGE TO PREVIOUS PLANS	OPERATOR CH	HANGE	TUBING REPAIR
	CHANGE TUBING	PLUG AND AB	ANDON	VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK		WATER DISPOSAL
Date of work completion:	CHANGE WELL STATUS	PRODUCTION	(START/RESUME)	WATER SHUT-OFF
Date of work completion.	COMMINGLE PRODUCING FORMATIONS	RECLAMATION	OF WELL SITE	✓ other: Activity Update
	CONVERT WELL TYPE	RECOMPLETE	- DIFFERENT FORMATION	
12. DESCRIBE PROPOSED OR C	OMPLETED OPERATIONS. Clearly show all p	pertinent details inclu	ding dates, depths, volume	es, etc.
CIBP was set at 12,369' a with 6 SPF. After flow tes 6.2 Bbls ( 280' plug) of Cl association with oil from p of cement were dumped of	iting for 5 days, obtaining pressure lass "G" cement containing 20% s perforations at 12,290' - 12,316' co on top of the CIBP. TCP guns wel	ped on the CIB e data, and coll silica flour were ontained 0.079 re used to perfe	P. TCP guns were lecting fluid sample placed on top of th H2S. Another Clorate 9217' - 9222'	used to perforate 12,290' - 12,316' is, a CIBP was set at 12,280' and in CIBP. Gas produced in IBP was set at 9418' and 2 sacks
NAME (PLEASE PRINT) Ellis M. P	eterson	TITLE	Senior Production	n Engineer
SIGNATURE AND MA	Lun	DATE	6/2/2008	
This space for State use only)				BECEIVED

JUN 0 9 2008

### **STATE OF UTAH**

	DIVISION OF OIL, GAS AND MINING	<u> </u>				
	5) LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907					
SUNDRY	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:					
Do not use this form for proposals to drill n	ew wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to terals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.	7. UNIT or CA AGREEMENT NAME: Wolverine Federal Unit				
1. TYPE OF WELL OIL WELL	GAS WELL OTHER	8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1				
2. NAME OF OPERATOR: Wolverine Gas and Oil Co	mpany of Utah, LLC	9. API NUMBER: 4303930030				
	Grand Rapids STATE MI ZIP 49503-2616 PHONE NUMBER: (616) 458-1150	10. FIELD AND POOL, OR WILDCAT: Wildcat				
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331'	FNL, 549' FWL	county: Sanpete				
QTR/QTR, SECTION, TOWNSHIP, RAN	GE, MERIDIAN: SWNW 24 20S 1E S	STATE: UTAH				
11. CHECK APP	ROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPO	RT, OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION					
☐ NOTICE OF INTENT	ACIDIZE DEEPEN	REPERFORATE CURRENT FORMATION				
(Submit in Duplicate)	ALTER CASING FRACTURE TREAT	SIDETRACK TO REPAIR WELL				
Approximate date work will start:	CASING REPAIR NEW CONSTRUCTION	TEMPORARILY ABANDON				
	CHANGE TO PREVIOUS PLANS OPERATOR CHANGE	TUBING REPAIR				
	CHANGE TUBING PLUG AND ABANDON	VENT OR FLARE				
SUBSEQUENT REPORT	CHANGE WELL NAME PLUG BACK	WATER DISPOSAL				
(Submit Original Form Only)	CHANGE WELL STATUS PRODUCTION (START/RESUME)	WATER SHUT-OFF				
Date of work completion:	COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE	✓ other: Activity Update				
	CONVERT WELL TYPE RECOMPLETE - DIFFERENT FORMATION					
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, denths, volumes, etc.						
The drilling rig was released on 2/28/2008 and moved off location. Testing and completion activities are now in progress. The Navajo1 was perforated with 6 SPF at 9145'- 9154' and 9160'- 9166', a breakdown using ball sealers and treated water was performed, and the perforated interval was flow tested with final rates of 150 BOPD, 72 BWPD, and 713 MCFD at a flowing THP of 360 psi. An RBP was set at 9138'. The Navajo1 was perforated with 6 SPF at 9104'- 9131' and the interval was flow tested with a last reported producing rates of 114 BOPD, 122 BWPD, and 699 MCFD at a flowing THP of 195 psi. A breakdown using ball sealers and treated water was performed on the perforations at 9104'- 9131' and the interval continues to be flow tested.						

NAME (PLEASE PRINT) Ellis M. Peterson Senior Production Engineer 6/27/2008 DATE

(This space for State use only)

JUN 3 0 2008

DIV. OF OIL, GAS & MINING

CLICK HERE to print this page



Drilling company may have struck oil in Sanpete County July 27, 2008





While the price of oil is retreating, oil and the price of it remains a big topic of conversation these days, and talk of oil is growing in Central Utah, where word is that a major oil reserve has been discovered.

We reported back in April that a drill rig in Central Utah may have hit oil. Those who really know the status of the well won't talk about it, but from Chopper Five we were able to see something is happening at the site.

Where an oil rig once stood, we caught pictures of an operational oil well. And while the company isn't confirming or denying what is going on at the well, it signals that oil has been discovered in Sanpete County.

Major oil companies did seismic studies and even began drilling in Central Utah in the 1970s and early 1980s but never struck oil. The big players in oil exploration later abandoned the Mountain West. But a small, independent company bought Chevron's research and leases in 1999, and it appears to have paid off.



Wolverine Gas and Oil hit oil at the field in nearby Sevier County in late 2003. It appears Wolverine has unlocked the secret to where the oil is and, more importantly, how to recover it.

Other independent oil companies are taking notice too. There has been a frenzy of companies going after mineral rights or buying land in the area in recent months. Plans to drill at least two other wells in Sanpete County are said to be in the immediate future.

Some industry insiders call the Central Utah find the biggest discovery in the Rocky Mountains in 30 years and believe it could yield billions of barrels of oil. Community leaders of the small county are trying to prepare for what oil could bring.

Sanpete County Commissioner Mark Anderson said, "We have gone to other counties, such as Sevier, Uintah, Duchesne and asked them about the impact they have felt from oil discovery. And we've learned a few things from them. So we think we are ahead of the curve, and we're excited for the discovery, and we think it is a real plus for us."

The Utah Division of Oil, Gas and Mining is monitoring the well, but companies are afforded one year of confidentiality to protect their proprietary information, so we won't officially know what is happening there until next spring. Also, oil discoveries take time to develop, so it could be years before the extent of the discovery is really known.

E-mail: spenrod@ksl.com

## CONFIDENTIAL

## STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

FORM 9

L	DIVISION OF OIL, GAS AND MI	NING			SE DESIGNATION AND SERIAL NUMBER:  J-80907
SUNDRY NOTICES AND REPORTS ON WELLS					NDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.					T or CA AGREEMENT NAME: Verine Federal Unit
1. TYPE OF WELL OIL WELL		om to sacr proposals.			L NAME and NUMBER: v. Fed. Arapien Valley 24-1
2. NAME OF OPERATOR: Wolverine Gas and Oil Cor	npany of Utah, LLC				NUMBER: 3930030
3. ADDRESS OF OPERATOR: 55 Campau NW	Grand Rapids STATE MI ZIP		HONE NUMBER: (616) 458-1150		LD AND POOL, OR WILDCAT:
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331' F QTR/QTR, SECTION, TOWNSHIP, RANG	NL, 549' FWL			COUNT	ry: Sanpete
11 CHECK ADDD	OPRIATE BOXES TO INDICAT	E NATURE O	ENOTICE DEDOC	T 0	
TYPE OF SUBMISSION	OPRIATE BOXES TO INDICAT		E OF ACTION	K1, U	R OTHER DATA
CONTINUED CONFIDENT The drilling rig was release Navajo1 perforations at 910 MCFD at a flowing THP of were collected and the well	ACIDIZE  ALTER CASING  CASING REPAIR  CHANGE TO PREVIOUS PLANS  CHANGE WELL NAME  CHANGE WELL STATUS  COMMINGLE PRODUCING FORMATIONS  CONVERT WELL TYPE  MPLETED OPERATIONS. Clearly show all particles of the product o	RECLAMATION RECOMPLETE Dertinent details inclu Docation. Testin last reported p and a pressure be reduction log se	HANGE ANDON  (START/RESUME) N OF WELL SITE - DIFFERENT FORMATION  ding dates, depths, volumes g and completion ac roducing rates of 12 build-up test was pe	ctivitie 20 BC rform	PPD, 216 BWPD, and 810 ed. Bottom-hole samples
NAME (PLEASE PRINT) Ellis M. Pet	erson Juan	TITLE DATE	Senior Production 7/31/2008	Engi	neer
(This space for State use only)					

RECEIVED

AUG 0 6 2008

Form 3160-5 (April 2004)

2. Name of Operator

55 Campau NW, Grand Rapids, MI 49503

TYPE OF SUBMISSION

Final Abandonment Notice

Notice of Intent

Subsequent Report

4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M

3a. Address

### UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

## SUNDRY NOTICES AND REPORTS ON WELLS

				0011	IDLIBILIT	
]	UNITED STATE: DEPARTMENT OF THE BUREAU OF LAND MAN NOTICES AND REI	OM E	M APPROVED 3 No. 1004-0137 ss: March 31, 2007			
Do not use th	nis form for proposals tell. Use Form 3160-3 (	If Indian, Allottee or Tribe Name     NA				
JBMIT IN TRIPLICATE- Other instructions on reverse side.				7. If Unit or CA/Agreement, Name and/or No.		
Oil Well Gas Well Company of Utah, LLC				8. Well Name and No. Wolverine Federal Arapien Valley 24-1		
Wolverine G	as and Oil Company of Utah,		7.1	9. API Well No. 43-039-30036		
NW, Grand Rapid	is, MI 49503	3b. Phone No. (include of 616-458-1150	irea coae)	10. Field and Pool, or Exploratory Area		
Vell (Footage, Sec.,	T., R., M., or Survey Description)			Wildcat		
549' FWL, Sec. 24	, T20S, R1E, SLB&M			11. County or Pari	ish, State	
				Sanpete Cou	nty, Utah	
12. CHECK A	PPROPRIATE BOX(ES) TO	INDICATE NATURE	OF NOTICE, RI	EPORT, OR OTH	HER DATA	
SUBMISSION		TYPI	E OF ACTION			
Intent	Acidize	Deepen	Production (Star	t/Resume)	Water Shut-Off	
ment	Alter Casing	Fracture Treat	Reclamation	<del></del>	Well Integrity	
nt Report	Casing Repair	New Construction	Recomplete		Other Activity Update	
ndonment Notice	Change Plans	Plug and Abandon	Temporarily Aba	ındon		
ASSESSED TO LOCATION	Convert to Injection	Plug Back	Water Disposal			

CONFIDENTIAL

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Please see the attached compilation of daily reports as an update of testing and completion activities at the Arapien Valley 24-1 exploratory well. This well is currently shut in and activities on the well are suspended for a few weeks while waiting for a completion rig. When activities resume, it is planned to cement squeeze the existing Navajo1 perforations at 9104' - 9166' using 100 sacks of premium cement. Another Navajo1 interval at 8942' - 8948' will then be perforated and flow tested as detailed in the attached procedure.

1		
Title Sr. Pro	duction Engineer	
Date	08/20/2008	8
RAL OR STAT	E OFFICE USE	
Title		Date
t warrant or bject lease Office		
	Date  ERAL OR STAT  Title t warrant or	ERAL OR STATE OFFICE USE  Title  t warrant or

(Instructions on page 2)



## Wolverine Gas And Oil Company of Utah LLC

Energy Exploration in Partnership with the Environment

Providence F	ield Federal AV 24-1	SW/NW Section 24, T20S, R1E	API # 43-039-30030	Sanpete Co, Utah
8/12/2008	Well production 151 bopd, 232 b	wpd, 735 MCFPD		
8/13/2008	Well production 120 bopd, 217 b	wpd, 740 MCFPD		
8/14/2008	Well production 128 bopd, 217 b	wpd, 740 MCFPD		
8/15/2008	Well production 63 bo, 118 bw, 7	35 MCF in 14 hrs. Shut well in at 2:	.00 PM. Well will remain SI until c	ompletion rig
	moves back on for further evalua-	itions.		
8/16/2008	No activity			
8/17/2008	No activity			
8/18/2008	No activity			
8/19/2008	No activity			

Supervisor:

7ony E. Cook

## Tight Hole

## Wolverine Gas & Oil Company of Utah, LLC Completion Procedure

## Arapien Valley 24-1 Providence Field

Purpose:

Plug back existing Navajo1 perforations and then complete and test additional

Navajol interval.

**PERTINENT INFORMATION** 

Location:

2331' FNL, 549' FWL (SW-NW)

Section 24, Township 20 South, Range 1 East

Sanpete County, Utah

Elevation:

5554' GL, 5580' KB

TD:

13.050

PBTD:

9188' (cement on top of CICR @ 9205')

API No.:

43-039-30030

Casing:

13-3/8", 68.0# @ 2017', cemented to surface

9-5/8", 47.0# HCL-80 and 53# HCP-110, LT&C @ 10,373', foam cemented with

returns to surface

5-1/2", 20.0#, P-110, LT&C @ 12,755', stage tool at 9950', cemented with 735 sks

50:50 Poz (Stage 1) and 1635 sks of Class G (Stage 2)

Wellhead:

Tubing Head Flange - 7-1/16" 10k w/ 2-7/8" EUE top connection

Tubing:

2-7/8", 6.5#, L-80, EUE, 8rd (new)

Production Casing Specs:

5-1/2", 20.0#, P-110, LT&C, 8rd, ID: 4.778" Drift: 4.653"

Collapse: 11,080 psi

Burst: 12,640 psi (80% 10,112 psi)

Tubing Specs:

2-7/8", 6.5#, L-80, EUE, 8rd, ID: 2.441" Drift: 2.347"

Collapse: 11,170 psi Burst: 10,570 psi (80% 8456 psi)

Joint: 145,000 lbs (80% 116,000 lbs)

Capacities:

5-1/2", 20.0#:

0.0221 Bbls/ft, 0.1245 ft<sup>3</sup>/ft

2-7/8", 6.5#:

0.00579 Bbls/ft, 0.0325 ft<sup>3</sup>/ft

5-1/2" x 2-7/8" Annulus:

0.0141 Bbls/ft, 0.0794 ft<sup>3</sup>/ft

BH Temperature:

200°F@9000'

### **Existing Navajo2 Perforations:**

12,373'-12,380' MD (12,370'-12,377' TVD), 7', 42 holes (below CIBP @ 12,369') 12,290'-12,316' MD (12,287'-12,313' TVD), 26', 156 holes (below CIBP @ 12,280')

All depths are referenced to Schlumberger Platform Express CN-TDL-GR log dated 2/21/2008.

Page 2 Arapien Valley 24-1 Initial Completion Procedure 4 August 13, 2008

### **Existing Navajol Perforations:**

9217'- 9222' MD (9216'- 9221' TVD), 5', 30 holes (below CICR @ 9205')

9160'- 9166' MD (9159'- 9165' TVD), 6', 36 holes

9145'- 9154' MD (9144'- 9153' TVD), 9', 54 holes

9104'- 9131' MD (9103'- 9130' TVD), 27', 162 holes

## **Proposed Navajo1 Perforations:**

8942'- 8948' MD (8941'- 8947' TVD), 6', 36 holes

All depths are referenced to Schlumberger Platform Express CN-TDL-GR log dated 1/17/2008. CBL dated 4/12/2008 is 2' shallow to open-hole logs at Navajo1 depth.

Note: Poisonous Hydrogen Sulfide (H2S) gas is present in the Navajo1 Formation so appropriate safety procedures should be followed.

### **PROCEDURE**

- 1. Fill a 500-Bbl frac tank with completion fluid (CF) consisting of filtered 4% KCl water, 21 gallons (1000 ppm) Baker Petrolite WAW 3003 non-ionic surfactant, 5.25 gallons (250 ppm) XC102W biocide, and 1.25 gallons (60 ppm) OSW5200 Oxygen Scavenger.
- 2. MIRU completion unit. Kill well with completion fluid. ND wellhead and NU BOP.
- 3. Release Arrowset-1 packer set at 9048' and circulate 230+ Bbls. POOH with tubing and packer assembly.
- 4. RIH with a CICR on tubing and set it at 9090". RU cementing company to squeeze perforations at 9104' 9166' using 100 sacks of premium cement containing additives per selected service company recommendation to allow 4 hours of pump time with the BHP of 200 °F. Hesitation squeeze to a maximum pressure of 3000 psi then pull up to leave at least 0.5 Bbls of cement on top of CICR. Pull up to 9080' and reverse circulate tubing clean.
- 5. POOH to 4000'. RU and swab fluid level in well down to 2500'. RD swab and finish POOH with tubing and stinger.
- 6. RU wireline with lubricator and perforate at 8942' 8948' (8938' 8944' on 4/12/2008 CBL depths) with 0.40+" diameter holes using 4" hollow expendable carriers loaded 6 SPF on 60° phasing with 25 gram charges. RD and release wireline service.
- 7. Fill hole with completion fluid. RIH with a wireline re-entry guide, one joint of 2-3/8" tubing, 2-3/8" x 1.870" XN profile landing nipple, 6' 2-3/8" tubing sub, 5.5" x 2-7/8" nickel coated Arrowset 1-X retrievable packer, one joint of 2-7/8" tubing, 2-7/8"x 2.25" seating nipple, and 2-7/8" tubing to surface. Space out, set packer at 8870', and land tubing in hanger with 20,000 lbs compression.
- 8. Pressure test 2-7/8" x 5-1/2" annulus to 2500 psi using rig pump. ND BOP and NU wellhead (include a swab valve).
- 9. RU to break down and ball off the isolated perforation interval using 1000 gallons of 4% KCl completion fluid mixed with 5 gallons of Halliburton GasPerm 1000 and 70 mixed ball sealers (half BioBalls and half buoyant balls). Hold safety meeting and pump treatment as follows, then RD and release Halliburton.

Page 3 Arapien Valley 24-1 Initial Completion Procedure 4 August 13, 2008

### Fluids and Additives:

Breakdown Fluid: 1000 gallons completion fluid with an added 4 gallons of

GasPerm 1000.

Diverter:

70 Diverter Balls including 35 BioBalls MR (7/8", green) and 35

7/8" 0.90 S.G. balls.

Corrosion Inhibitor: 15 gallons of Baker Petrolite CRO195 mixed in 2 Bbls of CF

Displacement Fluid: 58 Barrels CF

Maximum Injection Pressure: 5000 psi

Injection Rate: 2-4 BPM

### Pump Schedule:

A. Pressure test surface lines to 5500+ psi.

B. Pressure up and trap ~2000 psi on casing.

- C. Pump 300 gallons (7.1 Bbls) of Breakdown Fluid (with no balls) at a rate of rate of 2-4 BPM and 3000 5000 psi.
- D. Pump 350 gallons (8.3 Bbls) of Breakdown Fluid containing 35 buoyant balls (one per 10 gallons) at a rate of a rate of rate of 2-4 BPM and 3000 5000 psi.
- E. Pump 350 gallons (8.3 Bbls) of Breakdown Fluid containing 35 BioBalls (one per 10 gallons) at a rate of a rate of rate of 2-4 BPM and 3000 5000 psi.
- F. Pump 2 Bbls of corrosion inhibitor fluid.
- G. Pump 2436 gallons (58 Bbls) of displacement fluid to displace Breakdown Fluid and balls at a rate of 2-4 BPM and 3000 5000 psi.
- H. Shut well in and record ISIP.
- 10. RU and swab well in.
- 11. Swab to initiate flow and turn flowing well to temporary production. RDMOSU.
- 12. After load fluid is recovered, adjust choke to establish a stabilized flow rate with a minimum FTP of 200 psi. Record production and flowing conditions on a daily basis.

Note: Duration of production period will be just long enough to establish and meter stabilized flow, collect production samples, and possibly conduct a pressure build-up test.

## **CONFIDENTIAL**

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES

FORM 9

	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907		
SUNDR	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:		
Do not use this form for proposals to drill drill horizontal	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit		
1. TYPE OF WELL OIL WELL	GAS WELL OTHER_		8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
2. NAME OF OPERATOR: Wolverine Gas and Oil C	ompany of Utah, LLC		9. API NUMBER: 4303930030
3. ADDRESS OF OPERATOR: 55 Campau NW	TY Grand Rapids STATE MI ZIP	49503-2616 (616) 458-1150	10. FIELD AND POOL, OR WILDCAT: Wildcat
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331			соинту: Sanpete
QTR/QTR, SECTION, TOWNSHIP, RA	NGE, MERIDIAN: SWNW 24 20S 1	IE S	STATE: UTAH
	PROPRIATE BOXES TO INDICAT	TE NATURE OF NOTICE, REPO	ORT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
NOTICE OF INTENT	ACIDIZE	DEEPEN	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	ALTER CASING	FRACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR	NEW CONSTRUCTION	TEMPORARILY ABANDON
	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR
<b>7</b>	CHANGE TUBING	PLUG AND ABANDON	VENT OR FLARE
✓ SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL
Date of work completion:	CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF
	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	✓ other: Activity Update
	CONVERT WELL TYPE	RECOMPLETE - DIFFERENT FORMATION	
	COMPLETED OPERATIONS. Clearly show all p	pertinent details including dates, depths, volur	nes, etc.
CONTINUED CONFIDE	NTIAL STATUS REQUESTED		
Navajo1 perforations at 9 and 740 MCFD at a flowi source of water production		1 days with last reported production rates were stable a production bottom most perforations. The v	well is now shut-in awaiting for
NAME (PLEASE PRINT) Ellis M. F	Peterson	TITLE Senior Production DATE 8/29/2008	on Engineer
(This space for State use only)			

**RECEIVED** 



## WOLVERINE GAS AND OIL COMPANY

OF UTAH, LLC

Energy Exploration in Partnership with the Environment

September 11, 2008

Mr. Stan Andersen Fluid Minerals Group Bureau of Land Management Richfield Field Office 150 East 900 North Richfield, Utah 84701

Re:

Sundry Notice - Wolverine Gas and Oil Company of Utah, LLC

Wolverine Federal Arapien Valley 24-1

Dear Mr. Andersen:

Wolverine Gas and Oil Company of Utah, LLC respectfully submits the enclosed Sundry Notice (Form 3160-5) for the subject well. The Sundry Notice is to request continuation of flaring/venting as needed for extended testing operations.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information relating to this well.

Sincerely,

Ellis M. Peterson

Senior Production Engineer

Elli Withatum

Wolverine Gas and Oil

cc. gil Hunt, U Dogm

RECEIVED SEP 1 5 2008

DIV. OF OIL, GAS & MINING

Form 3160-5 (April 2004)

### **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

CON	FI	E	VT	The statement	Market Charges
		 -		9 <b>4</b>	O Seems

5. Lease Serial No.

FORM APPROVED OM B No. 1004-0137 Expires: March 31, 2007

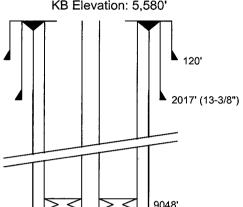
Do not use th	NOTICES AND RE is form for proposals	to drill or to r	e-enter an	6. If Indian,	Allottee or Tribe Name
abandoned w	ell. Use Form 3160 - 3	(APD) for such	proposals.	NA	
SUBMIT IN TRIPLICATE- Other instructions on reverse side.				7. If Unit or Wolveri	CA/Agreement, Name and/or No.
1. Type of Well ☐ ☐ ☐ ☐	Gas Well□□ Other			8. Well Nam	
2. Name of Operator Wolverine G	as and Oil Company of Utah	, LLC		Wolveri 9. API Wel	ne Federal Arapien Valley 24-1
3a Address 55 Campau NW, Grand Rapid		3b. Phone No. (inc. 616-458-1150	clude area code)	43-039-3	30030
4. Location of Well (Footage, Sec.,		010-430-1130		10. Field and Wildcat	Pool, or Exploratory Area
2331' FNL, 549' FWL, Sec. 24	, T20S, R1E, SLB&M			11. County o	r Parish, State
					County, Utah
	PPROPRIATE BOX(ES) TO				OTHER DATA
TYPE OF SUBMISSION		·	TYPE OF ACTION	· · · · · · · · · · · · · · · · · · ·	
Notice of Intent	Acidize  Alter Casing	Deepen Fracture Treat	Production Reclamation	(Start/Resume)	Water Shut-Off Well Integrity
Subsequent Report	Casing Repair	New Construction			Other Continued testing
	Change Plans	Plug and Abando		ly Abandon	with gas venting
Final Abandonment Notice	Convert to Injection	Plug Back	Water Dis	posal	
interest in Navajo1 and Na potentially productive but the 30-day limit allowed b flaring/venting period for 8948' and 8854'- 8872' can	for a new field with multiple avajo2 reservoirs during whit untested intervals remaining y NTL-4a for flaring/venting testing this well for up to 20 to be completed.	ch a total of approxi g that require testing of gas is necessary i additional days is th	imately 22 MMCF g to confirm produc in order to complet erefore requested s	of gas have been ve ctivity and reservoi e this testing. A con to testing operation	r content, but an extension of tinuation of the initial s of intervals at depths of 8942'-
	ving the current mechanical of	<del>-</del>		included herewith.	
COPY SENT TO OPERATOR	A Section of the Control of the Cont	ccepted by tah Division	of		<sub>rroval</sub> Of This Necessary
Date: 9.23.2008		Gas and M	inina	Federal APF	Necessary
Initials: 145		2117108	1	Action is	
	Date	111/10	A		
14. I hereby certify that the fore Name (Printed/Typed)	going is true and correct	31/W1/ 10/19-3-19	$\mathcal{C}_{\mathcal{C}}$		
Ellis Peterson	14	691 -	Sr. Production E	ngineer	
Signature Chi My	Mira	Date	•	09/11/2008	
	THIS SPACE FOR	FEDERAL OF	STATE OFF	CE USE	
Approved by			Title	Da	ate
Conditions of approval, if any, are a certify that the applicant holds legal which would entitle the applicant to	or equitable title to those rights		Office		
**	<u> </u>	a crime for any person as to any matter within	n knowingly and will n its jurisdiction.	fully to make to any	department or agency of the United
/Y				***	



**Arapien Valley 24-1** Providence Field API # 43-039-30030 Sanpete County, Utah

## (Not to Scale)

Ground Elevation: 5,554' KB Elevation: 5,580'



**Vertical Well** 

Surface: 2331' FNL 549' FWL, SW NW, 24-20S-1E Total Depth: 2370' FNL 620' FWL, SW NW, 24-20S-1E

> 9104' - 9166': Recovery: 2215 BO, 2910 BW, 9.7 MMCF Flashed Gas - 1.47 sp. gr., 30 ppm H2S, 79% CO2, 6% N2, 349 BTU/scf

Flashed Oil - 48 °API, 2380 scf/stb

Final Rate: 128 BOPD, 217 BWPD, 740 MCFD w/ 330 psi FTP

9104' - 9131': Recovery: 964 BO, 941 BW, 6.3 MMCF Final Rate: 163 BOPD, 160 BWPD, 1183 MCFD w/ 380 psi FTP

9145' - 9166': Recovery: 550 BO, 129 BW, 1.5 MMCF Final Rate: 150 BOPD, 72 BWPD, 713 MCFD w/ 420 psi FTP

9217' - 9222': Swabbed and flowed 20 hours (recovered 22 BO. 405 BW, gas not measured)

12,290' - 12,316': Recovery: 1338 BO, 122 BW, 4 MMCF Flashed Gas - 1.02 sp. gr., 0.08% H2S, 7% CO2, 9% N2, 1437 BTU/scf

Flashed Oil - 48 °API, 2380 scf/stb

Final Rate: 160 BOPD, 20 BWPD, 473 MCFD w/ 200 psi FTP

12,373' - 12,380': Flowed oil and gas (no water) for 21 hours before equipment failure.



## WOLVERINE GAS AND OIL COMPANY

OF UTAH, LLC

Energy Exploration in Partnership with the Environment

September 17, 2008

Mr. Stan Andersen
Fluid Minerals Group
Bureau of Land Management
Richfield Field Office
150 East 900 North
Richfield, Utah 84701

RECEIVED

SEP 23 2008

DIV. OF OIL, GAS & MINING

43 039 30030

Sundry Notice - Wolverine Gas and Oil Company of Utah, LLC

Wolverine Federal Arapien Valley 24-1

205 IE 24

Dear Mr. Andersen:

Re:

Wolverine Gas and Oil Company of Utah, LLC respectfully submits the enclosed Sundry Notice (Form 3160-5) for the subject well. The Sundry Notice is to give notice of intent and request approval to continue testing activities on the well per the attached procedure.

Please accept this letter as Wolverine's written request for continued confidential treatment of all information relating to this well.

Sincerely,

Ellis M. Peterson

Senior Production Engineer

Wolverine Gas and Oil

xc: Gil Hunt, UDOGM



Form 3160-5

(April 2004)	DEPARTMENT OF THE INTERIOR	OR	FORM APPROVED OMB No. 1004-0137 Expires: March 31, 2007
CHNDD	BUREAU OF LAND MANAGEMEN		5. Lease Serial No.
Do not use	Y NOTICES AND REPORTS this form for proposals to drill of	ON WELLS	6. If Indian, Allottee or Tribe Name
abandoned (	well. Use Form 3160-3 (APD) for	such proposals.	NA
	RIPLICATE- Other instructions	on reverse side.	7. If Unit or CA/Agreement, Name and/or No.
<ol> <li>Type of Well Oil Well □</li> </ol>	Gas Well Other		Wolverine Unit
2. Name of Operator Wolverine	Gas and Oil Company of Utah, LLC		8. Well Name and No.  Wolverine Federal Arapien Valley 24-1  9. API Well No.
3a Address 55 Campau NW, Grand Rapi	3b Phone	No. (include area code)	43-039-30030
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)			10. Field and Pool, or Exploratory Area Wildcat
2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M			11. County or Parish, State
			Sanpete County, Utah
12. CHECK A	APPROPRIATE BOX(ES) TO INDICATE	E NATURE OF NOTICE,	REPORT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
Notice of Intent	Acidize Deepen  Alter Casing Fracture	<del></del>	(Start/Resume) Water Shut-Off Well Integrity
Subsequent Report		nstruction Recomplete	Other
Final Abandonment Notice	Change Plans ☐ Plug and ☐ Convert to Injection ☐ Plug Baci	Abandon Temporarily k Water Dispo	
testing has been completed. Find determined that the site is read This is the discovery well the reservoir fluid content flaring/venting period for approval and gives intent perforate and test select is supersede previous requestions.	inal Abandonment Notices shall be filed only after by for final inspection.)  for a new field with multiple potential oil a t and production potential of the Navajo1 F an additional 20 days was requested to allow to cement squeeze perforations at 9104' - 9 intervals at 8854' - 8922'. A procedure outling	r all requirements, including reci ccumulations. It is planned formation. By previous Sun ow the testing of the propose '166'; perforate, test, and ce ning details of these plans is jol. The requested continus	ed intervals. This Sundry Notice requests ment squeeze an interval at 8942' - 8948'; and attached. This Sundry Notice is intended to
			COPY SENT TO OPERATOR
			Date: 10.7.2008
			Initials: KS
14. I hereby certify that the fore Name (Printed/Typed)	going is true and correct		
Ellis Peterson		Title Sr. Production Eng	ineer
Signature Lawy	Turn	Date	09/16/2008
9, 7, 7, 1	THIS SPACE FOR FEDERAL	OR STATE OFFIC	E USE
Approved by  Conditions of approval, if any, are a certify that the applicant holds legal which would entitle the applicant to	attached. Approval of this notice does not warral or equitable title to those rights in the subject of conduct operations thereon.	Accepted by the	Poderal Approval Of This Action Is Necessary
Title 18 U.S.C. Section 1001 and Title	e 43 U.S.C. Section 1212, make it a crime and the section 1212 and the statements or representations as to any matter	nergo knowingly and willfull	tyto make to any department or approx of the United
(Instructions on page 2)	Ву: _		1.0.1.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0.0

SEP 123 2008

## Tight Hole



## Wolverine Gas & Oil Company of Utah, LLC Completion Procedure

## Arapien Valley 24-1 Providence Field

Purpose:

Plug back existing Navajo1 perforations and then complete and test additional

Navajo1 intervals.

PERTINENT INFORMATION

Location:

2331' FNL, 549' FWL (SW-NW)

Section 24, Township 20 South, Range 1 East

Sanpete County, Utah

Elevation:

5554' GL, 5580' KB

TD:

13,050°

PBTD:

9188' (cement on top of CICR @ 9205')

API No.:

43-039-30030

Casing:

13-3/8", 68.0# @ 2017', cemented to surface

9-5/8", 47.0# HCL-80 and 53# HCP-110, LT&C @ 10,373', foam cemented with

returns to surface

5-1/2", 20.0#, P-110, LT&C @ 12,755', stage tool at 9950', cemented with 735 sks

50:50 Poz (Stage 1) and 1635 sks of Class G (Stage 2)

Wellhead:

Tubing Head Flange – 7-1/16" 10k w/ 2-7/8" EUE top connection

Tubing:

2-7/8", 6.5#, L-80, EUE, 8rd (new)

Production Casing Specs:

5-1/2", 20.0#, P-110, LT&C, 8rd, ID: 4.778" Drift: 4.653"

Collapse: 11,080 psi

Burst: 12,640 psi (80% 10,112 psi)

Tubing Specs:

2-7/8", 6.5#, L-80, EUE, 8rd, ID: 2.441" Drift: 2.347"

Collapse: 11,170 psi

Burst: 10,570 psi (80% 8456 psi)

Joint: 145,000 lbs (80% 116,000 lbs)

Capacities:

5-1/2", 20.0#:

0.0221 Bbls/ft, 0.1245 ft<sup>3</sup>/ft

2-7/8", 6.5#:

0.00579 Bbls/ft, 0.0325 ft<sup>3</sup>/ft

5-1/2" x 2-7/8" Annulus:

0.0141 Bbls/ft, 0.0794 ft<sup>3</sup>/ft

BH Temperature:

200°F @ 9000'

**Existing Navajo2 Perforations:** 

12,373'- 12,380' MD (12,370'- 12,377' TVD), 7', 42 holes (below CIBP @ 12,369')

12,290'- 12,316' MD (12,287'- 12,313' TVD), 26', 156 holes (below CIBP @ 12,280')

All depths are referenced to Schlumberger Platform Express CN-TDL-GR log dated 2/21/2008.

Page 2 Arapien Valley 24-1 Initial Completion Procedure 4 September 16, 2008

## **Existing Navajo1 Perforations:**

9217'- 9222' MD (9216'- 9221' TVD), 5', 30 holes (below CICR @ 9205') 9160'- 9166' MD (9159'- 9165' TVD), 6', 36 holes 9145'- 9154' MD (9144'- 9153' TVD), 9', 54 holes 9104'- 9131' MD (9103'- 9130' TVD), 27', 162 holes

## **Proposed Navajo1 Perforations:**

8942'- 8948' MD (8941'- 8947' TVD), 6', 18 holes 8920'- 8922' MD (8919'- 8921' TVD), 2', 6 holes 8904'- 8914' MD (8903'- 8913' TVD), 10', 30 holes 8881'- 8883' MD (8880'- 8882' TVD), 2', 6 holes 8865'- 8871' MD (8864'- 8870' TVD), 6', 18 holes 8854'- 8860' MD (8853'- 8859' TVD), 6', 18 holes

All depths are referenced to Schlumberger Platform Express CN-TDL-GR log dated 1/17/2008. CBL dated 4/12/2008 is 2' shallow to open-hole logs at Navajo1 depth.

Note: Poisonous Hydrogen Sulfide (H2S) gas is present in the Navajo1 Formation so appropriate safety procedures should be followed.

### **PROCEDURE**

- 1. Fill a 500-Bbl frac tank with completion fluid (CF) consisting of filtered 4% KCl water, 21 gallons (1000 ppm) Baker Petrolite WAW 3003 non-ionic surfactant, 5.25 gallons (250 ppm) XC102W biocide, and 1.25 gallons (60 ppm) OSW5200 Oxygen Scavenger.
- 2. MIRU completion unit. Kill well with completion fluid. ND wellhead and NU BOP.
- 3. Release Arrowset-1 packer set at 9048' and circulate 230+ Bbls. POOH with tubing and packer assembly.
- 4. RIH with a CICR on tubing and set it at 9090'. Pressure test tubing to 2000 psi, shear out and unsting, and then sting back into CICR.
- 5. RU cementing company to squeeze perforations at 9104' 9166' using 100 sacks of Class 'G' cement containing additives per selected service company recommendation to allow 4 hours of pump time with the BHP of 200 °F. Pressure test surface lines to 2500 psi. Sting into CICR and establish a rate with fresh water into isolated perforations. Unsting from CICR, mix and pump cement, and displace to within two Bbls of EOT with fresh water. Sting into CICR, hesitation squeeze cement to a maximum pressure of 2000 psi, unsting from CICR to leave at least 0.5 Bbls of cement on top of CICR. Pull up to 9080' and reverse circulate tubing clean. POOH with tubing and stinger.
- 6. Make up tubing conveyed perforating (TCP) assembly to perforate at 8942' 8948' with 0.50+" diameter holes using 4" hollow carriers loaded 3 SPF on 120° phasing with 38.5 gram charges using drop-bar detonator. The BH assembly will consist of the TCP guns with mechanical firing head, 2-3/8" tubing sub, one joint 2-3/8" tubing, 2-3/8" perforated fill sub, 2-3/8" x 2-7/8" cross-over, 4 joints of 2-7/8" tubing, 2-7/8" surge tool (glass disk), 7 joints of 2-7/8" tubing, 5-1/2" (20#) x 2-7/8" nickel coated

- Arrowset 1-X packer (w/ 4.625" OD and CO2 compatible elements), one joint of 2-7/8" tubing, 2-7/8" x 2.25" seating nipple, and 2-7/8" tubing to surface.
- 7. RIH with TCP assembly and load tubing with 15 gallons of Baker Petrolite CRO195 (corrosion inhibitor) followed by 22 Bbls of completion fluid to fill up to ~4900'. Set packer at approximate depth to perforate 8942' 8948'.
- 8. RU wireline and run a GR-CCL to correlate and get on depth to Schlumberger Platform Express logs dated 1/17/2008. Move and reset packer as needed to get perforation guns on depth, and re-run correlation to verify that guns are situated to perforate 8942' 8948'. RD wireline.
- 9. Space out and land tubing in 20,000+ lbs compression. Secure all flow lines and connect to production equipment for flow testing with gas flaring/venting. Pressure 2-7/8" x 5-1/2" annulus to 1000 psi and trap pressure. Drop bar to break glass disk and perforate the well at 8942' 8948'.
- 10. Observe pressure response with the choke closed and then slowly open choke to allow flow through production equipment. Adjust choke and flow as needed to recover all completion fluid and allow production rate to stabilize with a flowing tubing pressure of 200 300 psi.
- 11. If well flows as expected, produce the well until a stabilized rate is established but for no more than 3 days. If well will not flow, RU and swab to establish rate and reservoir fluid. If there is insufficient production to establish reservoir fluid, subsequent instructions to retrieve TCP assembly and then perform a ball-out break down with completion fluid will be provided.
- 12. Kill well, release packer, and POOH with TCP assembly.
- 13. RU wireline and set a 5-1/2" (20#) CICR at 8936' WLM. RD wireline.
- 14. RIH with a CICR stinger on 2-7/8" tubing. Circulate hole full and sting into cement retainer. Pressure test casing to 2000 psi. Unsting from CICR if not immediately ready to pump cement.
- 15. RU cementing company to squeeze perforations at 8942' 8948' with 50 sacks of Class 'G' cement containing additives per selected service company recommendation to allow 4 hours of pump time with the BHP of 200 °F. Pressure test surface lines to 2500 psi. Sting into CICR and establish a rate with fresh water into isolated perforations. Unsting from CICR, mix and pump cement, and displace to within two Bbls of EOT with fresh water. Sting into CICR, hesitation squeeze cement to a maximum pressure of 2000 psi, unsting from CICR, pull up 2 feet, and reverse circulate clean.
- 16. POOH with tubing and stinger to ~4000'. RU and swab fluid level in casing down to ~2500'. RD swab equipment and finish POOH with tubing.
- 17. RU wireline and perforate at 8920'- 8922', and 8904'- 8914' (8916' 8918' and 8900' 8910' on 4/12/2008 CBL depths) with 0.50+" diameter holes using 4" hollow expendable carriers loaded 3 SPF on 120° phasing with 38.5 gram charges. RD and release wireline unit.
- 18. RIH with a 5-1/2" (20#) RBP, retrieving head, one joint of 2-7/8" tubing, a 5-1/2" (20#) stimulation packer, and seating nipple on 2-7/8". Set RBP at 8930' WLM and packer at ~8800'.

Page 4 Arapien Valley 24-1 Initial Completion Procedure 4 September 16, 2008

- 19. RU and swab for rate and clean-up until rate, fluid level and water-cut are stable. If needed based on swab results, subsequent instructions will be provided to break-down perforations and ball out.
- 20. Load tubing with CF, release packer, and lower tubing to RBP. Reverse circulate with 60+ Bbls of completion fluid. Release RBP and reset it at 8898' WLM. Set packer and pressure test RBP to 2000 psi. Release packer and swab fluid level in well down to ~2500'. POOH with packer and tubing.
- 21. RU wireline and perforate at 8881'- 8883', 8865'- 8871', and 8854'- 8860' (8878'- 8880', 8862'- 8868', and 8851'- 8857' on 4/12/2008 CBL depths) with 0.50+" diameter holes using 4" hollow expendable carriers loaded 3 SPF on 120° phasing with 38.5 gram charges. RD and release wireline unit.
- 22. RIH with a retrieving head, one joint of 2-7/8" tubing, a 5-1/2" (20#) stimulation packer, and seating nipple on 2-7/8" tubing. Set packer at ~8750'.
- 23. RU and swab for rate and clean-up until rate, fluid level and water-cut are stable. If needed based on swab results, subsequent instructions will be provided to break-down perforations and ball out.
- 24. Load tubing with CF, release packer, and lower tubing to RBP. Reverse circulate with 60+ Bbls of completion fluid. Release RBP and POOH with tubing and tools.
- 25. Down-hole equipment to be run next will be as needed to produce the well or to temporarily suspend the well. It will be specified based on the production characteristics of Upper Navaj 1 perforation intervals.

## CONFIDENTIAL

## STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

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DIVISION OF OIL, GAS AND MINING		5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907
SUNDRY NOTICES AND REPORTS ON V	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-h drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such p	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit	
1. TYPE OF WELL OIL WELL GAS WELL OTHER	Jupusais.	8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
NAME OF OPERATOR:     Wolverine Gas and Oil Company of Utah, LLC	· · · · · · · · · · · · · · · · · · ·	9. API NUMBER: 4303930030
3. ADDRESS OF OPERATOR:	PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT:
55 Campau NW CITY Grand Rapids STATE MI ZIP 49503-2	616 (616) 458-1150	Wildcat
FOOTAGES AT SURFACE: 2331' FNL, 549' FWL		COUNTY: Sanpete
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 24 20S 1E S		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATU	IRE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTION	
Approximate date work will start: CASING REPAIR NEW	CTURE TREAT CONSTRUCTION	REPERFORATE CURRENT FORMATION SIDETRACK TO REPAIR WELL TEMPORARILY ABANDON
CHANGE TUBING PLUC	RATOR CHANGE G AND ABANDON G BACK	TUBING REPAIR  VENT OR FLARE  WATER DISPOSAL
(Submit Original Form Only)  Date of work completion:  CHANGE WELL STATUS  PRO	DUCTION (START/RESUME)  LAMATION OF WELL SITE	WATER SHUT-OFF
	OMPLETE - DIFFERENT FORMATION	✓ other: Activity Update
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent det	ails including dates, denths, volumes	o oto
CONTINUED CONFIDENTIAL STATUS REQUESTED	and morading dates, depins, volumes	s, <del>c</del> iu.
The drilling rig was released on 2/28/2008 and moved off location. suspended since August 15, 2008 and are expected to resume on continue testing is received.		
NAME (PLEASE PRINT) Ellis M. Peterson	Senior Production	Engineer
SIGNATURE CALLES MES Manne	DATE 9/26/2008	
(This space for State use only)		DECENTED

RECEIVED OCT 0 2 2008

## DVILIDLYILIVI

## STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

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FORM 9

	DIVISION OF OIL, GAS AND MIN	IING	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907
SUNDRY	NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposals to drill r drill horizontal li	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit		
1. TYPE OF WELL OIL WELL	GAS WELL OTHER		8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1
2. NAME OF OPERATOR: Wolverine Gas and Oil Co	ompany of Utah II C		9. API NUMBER: 4303930030
3. ADDRESS OF OPERATOR:		PHONE NUMBER:	10. FIELD AND POOL, OR WILDCAT:
55 Campau NW  CIT  4. LOCATION OF WELL	Y Grand Rapids STATE MI ZIP 4	19503-2616 (616) 458-1150	Wildcat
FOOTAGES AT SURFACE: 2331'	FNL, 549' FWL		соинту: Sanpete
OTD/OTD SECTION TOWNSHIP DAN	ICE MEDIDIANI CIMNIM 24 200 1E	-	
QTR/QTR, SECTION, TOWNSHIP, RAN	ige, meridian: SWNW 24 20S 1E	E S	STATE: UTAH
11. CHECK APP	ROPRIATE BOXES TO INDICATE	E NATURE OF NOTICE, REPO	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
✓ NOTICE OF INTENT	ACIDIZE	DEEPEN	REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	ALTER CASING	FRACTURE TREAT	SIDETRACK TO REPAIR WELL
Approximate date work will start:	CASING REPAIR	NEW CONSTRUCTION	TEMPORARILY ABANDON
	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR
	CHANGE TUBING	PLUG AND ABANDON	✓ VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL
Date of work completion:	CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF
	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	OTHER:
	CONVERT WELL TYPE	RECOMPLETE - DIFFERENT FORMATION	
Approval is hereby reques Wolverine Federal Arapie commercially. Additional of Results.		ed to establish stabilized produci tter to this notice and in the attac	ing rates and help determine
F			
NAME (PLEASE PRINT) Ellis M. Pe	eterson	TITLE Senior Production	n Engineer
F	eterson Musera	Senior Production  DATE 10/21/2008	n Engineer

## **Completion Summary and Results**

Wolverine Federal Arapien Valley 24-1 Providence Field April 7, 2008 to Present (October 21, 2008)

Purpose of Work: Complete and test Navajo2 and Navajo1

## Work Summary:

- 1. Drilled out stage cementing tool at 9931' KB.
- 2. Ran a bit and casing scraper to PBTD and cleaned tubing and casing with caustic/acid solutions.
- 3. Ran a gyro directional survey from PBTD to surface.
- 4. Ran a radial CBL from wireline tagged PBTD of 12,620' to 12,000' with 0, 1000, and 3500 psi and from 12,000' to 2990' with no pressure.
- 5. Perforated Navajo2 at 12,373'- 12,380' using 3-3/8" hollow carriers loaded with 6 SPF.
- 6. RIH with packer on 2-7/8" tubing and set packer at 12,313'.
- 7. Swabbed well and recovered primarily water with strong gas blow before packer was found to be leaking.
- 8. Tripped tubing to change packer and set new packer at 12,311'.
- 9. Installed T-pack/dehy combo unit to allow separation and metering during flow testing.
- 10. Opened well to blow down tubing pressure and Hydrogen Sulfide gas was detected in gas at concentrations of 800 to 1000 ppm.
- 11. Swabbed water to establish flow and well flowed 16 hours before loading up. Recovery was approximately 113 BO with no water with or stable gas measurement. Well loaded up because the packer failed.
- 12. Released and pulled packer.
- 13. Set a CIBP at 12,369' and dump bailed 2 sacks of cement on top of CIBP.
- 14. Perforated Navajo2 at 12,290'- 12,316' using TCP guns loaded 6 SPF.
- 15. Flowed well for 12 hours and then ran and set down-hole pressure gauges with wireline. Produced for another 5 hours and shut well in for a pressure buildup.
- 16. Opened well after 87 hours, flowed through the T-pak for four days, and shut in for pressure buildup for 72 hours. Total recovery from the isolated perforation interval was1338 BO, 122 BW, and 4.0 MMCF (gross field estimates) and the final flow rate was 160 BOPD, 20 BWPD, and 473 MCFD at FTP of 200 psi.
- 17. Pulled pressure gauges and collected bottom-hole fluid samples by wireline.
- 18. Set CIBP at 12,280'.
- 19. Pumped a balanced cement plug consisting of 25 sacks (6.2 Bbls) of premium cement containing 20% silica flour to fill 280' on top of CIBP.
- 20. Set a CIBP at 9418' and dump bailed 2 sacks of cement on top of CIBP.
- 21. Perforated Navajo1 at 9217'- 9222' using TCP guns loaded 6 SPF.
- 22. Swabbed and flowed well for 20 hours. Recovered 22 BO, 405 BW, and 0.2 MMCF (gross field estimates) in 20 hours with a final flow rate of 48 BOPD, 550 BWPD, and 300 MCFD at FTP of 115 psi.



- 23. Set a CICR at 9205' and squeezed the Navajo1 perforations at 9217'- 9222' with 50 sacks (12.5 Bbls) of premium cement containing 20% silica flour. Dumped last 0.5 Bbl of cement on top of CICR and reverse circulated with end of tubing at 9190'.
- 24. Perforated Navajo1 at 9160'- 9166' and 9145'- 9154' using 4" hollow carriers loaded with 6 SPF.
- 25. Swabbed and flowed with plunger lift with limited inflow.
- 26. Broke down Navajo1 perforations at 9160'- 9166' and 9145'- 9154' using a total of 114 Bbls of 4% KCl water and additives and 120 ball sealers.
- 27. Swabbed and flowed from Navajo1 perforations at 9160'- 9166' and 9145'- 9154'. Recovered 550 BO, 129 BW, and 1.5 MMCF (gross field estimates) in 2 days with a final flow rate of 150 BOPD, 72 BWPD, and 713 MCFD at FTP of 420 psi.
- 28. Set bridge plug at 9138', and pulled packer and tubing.
- 29. Perforated Navajo1 at 9104'- 9131' using 4" hollow carriers loaded with 6 SPF.
- 30. Wireline set packer with pump-out disk at 9000', ran tubing, and latched packer with tubing.
- 31. Flowed well from perforated interval at 9104'- 9131' for five days with final rate of 120 BOPD, 120 BWPD, and 700 MCFD at FTP of 250 psi.
- 32. Broke down Navajo1 perforations at 9104'- 9131' using a total of 148 Bbls of 4% KCl water and additives and 240 ball sealers.
- 33. Flowed well from perforated interval at 9104'- 9131' for two days with final rate of 163 BOPD, 160 BWPD, and 1183 MCFD at FTP of 380 psi. Total recovery from perforated interval at 9104'- 9131' was 964 BO, 941 BW, and 6.3 MMCF (gross field estimates).
- 34. Pulled RBP and packer. Ran a new packer and set it at 9048' to produce Navajo1 perforations at 9104'- 9166'.
- 35. Ran and set bottom-hole pressure gauges.
- 36. Swabbed well and turned to production.
- 37. Flowed well through test unit for two days and then shut well in for a pressure build-up.
- 38. Pulled pressure gauges and collected bottom-hole fluid samples by wireline.
- 39. Flowed well and ran a production log. Recovery during testing of commingled intervals at 9104'- 9166' totaled 2215 BO, 2910 BW, and 9.7 MMCF (gross field estimates). Final producing rate from the three combined perforation intervals at 9104'- 9166' was 128 BOPD, 217 BWPD, and 740 MCFD with FTP of 330 psi.
- 40. Squeezed cemented 100 sacks (22.6 Bbls) of 50:50 poz cement with latex into the perforations at 9104'- 9166' through a CICR at 9093'.
- 41. Perforated Navajo1 at 8942'- 8948' using TCP guns loaded 3 SPF.
- 42. Flowed well from perforations at 8942'- 8948' for three days and recovered 53 BO, 0 BW, and 0.7 MMCF. Final flow rate was 40 BOPD, 0 BWPD, and 354 MCFD on plunger lift with 110 psi FTP.
- 43. Pulled TCP assembly and packer. Wireline set a CICR at 8936'.
- 44. Squeezed cemented 50 sacks (10.6 Bbls) of 50:50 poz cement with latex into the perforations at 8942'- 8948' through the CICR at 8936'.



- 45. Perforated Navajo1 at 8920'- 8922' and 8904'- 8914' with 3 SPF using 4" hollow carriers.
- 46. Set RBP at 8930' and packer at 8800'.
- 47. Swabbed tubing dry with no fluid inflow from perforations at 8920'- 8922' and 8904'- 8914'.
- 48. Moved RBP to 8898' and pulled packer.
- 49. Perforated Navajo1 at 8881'- 8883', 8865'- 8871', and 8854'- 8860' with 3 SPF using 4" hollow carriers.
- 50. Ran packer and set it at 8746'.
- 51. Swabbed tubing dry with no fluid inflow from perforations at 8881'- 8883', 8865'- 8871', and 8854'- 8860'.
- 52. Moved packer to 8930'.
- 53. Broke down Navajo1 perforations at 8854'- 8922' using a total of 56 Bbls of 4% KCl water and additives and 150 ball sealers.
- 54. Swabbed perforations at 8854'- 8922' with no significant fluid recovery.

Immediate plans are to squeeze cement into the perforations at 8854'- 8922' using a CICR and 50 sacks (10.6 Bbls) of 50:50 poz cement. Then cement and plugs will be drilled out to perforations at 12,290'- 12,316' in anticipation of fracture stimulating and flow testing the Navajo2.



# Wolverine Federal Arapien Valley 24-1 Providence Field API # 43-039-30030 Section 24, T20S, R1E Sanpete County, Utah

### (Not to Scale)

Ground Elevation: 5,554' KB Elevation: 5,580' 120' 2017' (13-3/8", 68#) 8854' - 8860' 8840 8865' - 8871' 8881' - 8883' 8904' - 8914' 8920' - 8922' 8936 8942' - 8948' 9093 9104' -- 9131' 9145' - 9154' 9160' -- 9166' 9205 9217' - 9222' 9418 9950' (stage tool) 12.280 12,290' - 12,316' 12,369 12,373' - 12,380'12,755' (5-1/2", 20#)

TD = 13,050' KB

**Vertical Well** 

Surface: 2331' FNL 549' FWL, SW NW, 24-20S-1E Total Depth (Estimated): 2383' FNL 617' FWL, SW NW, 24-20S-1E

Conductor Casing (10/3/07)

Size: 24", 0.25" wall in 32' hole

Depth Landed: 120' KB

Cement Data: Cemented to surface with 8 yds redi-mix

Surface Casing (11/14/07)

Size/Wt/Grade: 13 3/8", 68#, J-55, BTC, in 17.5" hole

Depth Landed: 2017' KB

Cement Data: 405 sks CBM Light (10.5 ppg, 4.14 cf/sk), 410 sks Type III (14.8

ppg, 1.33 cf/sk), Cemented to surface

Intermediate Casing (1/21/08)

Size/Wt/Grade: 9-5/8", 4737' of 53# HCP-110 and 5636' of 47# HCL-80,

LTC, 8rd in 12.5" hole

Depth Landed: 10,373' KB

Cement Data: 2620 sks foamed Elastiseal (14.3 ppg, 1.48 cf/sk)

630 sks non-foamed Elastiseal (14.3 ppg, 1.48 cf/sk)

Note: N2 break-through and foamed cement to surface.

Production Casing (2/27/08)

Size/Wt/Grade: 5-1/2", 20#, P-110, LTC, 8rd

Properties: 12,640 psi burst, 4.653" drift, 4.778" ID, 0.0221 Bbl/ft Capacity

Depth Landed: 12,755' KB,

Stage tool @ 9950' KB, Marker Joint @ 12,110'- 12,125.5'

Cement Data: Stage 1 - 735 sks 50:50 Poz-Premium (12.5 ppg, 1.85 cf/sk)

Stage 2 - 1635 sks Class G (15.5 ppg, 1.20 cf/sk)

Navaio2 Perforations

12,290' – 12,316' MD (12,287' – 12,313' TVD), 26', 156 holes (below CIBP) 12,373' – 12,380' MD (12,370' – 12,377' TVD), 7', 42 holes (below CIBP)

Navajo1 Perforations

8854'- 8860' MD (8853'- 8859' TVD), 6', 18 holes (squeezed)

8865'- 8871' MD (8864'- 8870' TVD), 6', 18 holes (squeezed)

8881'- 8883' MD (8880'- 8882' TVD), 2', 6 holes (squeezed)

8904'- 8914' MD (8903'- 8913' TVD), 10', 30 holes (squeezed)

8920'- 8922' MD (8919'- 8921' TVD), 2', 6 holes (squeezed)

8942'- 8948' MD (8941'- 8947' TVD), 6', 18 holes (squeezed)

9104'- 9131' MD (9103'- 9130' TVD), 27', 162 holes (squeezed) 9145'- 9154' MD (9144'- 9153' TVD), 9', 54 holes (squeezed)

9160'- 9166' MD (9159'- 9165' TVD), 6', 36 holes (squeezed)

0047' 0000' MD (0046' 0004' TVD), 5' 00 holes (equesized)

9217'- 9222' MD (9216'- 9221' TVD), 5', 30 holes (squeezed)

**PBTD** 

Planned to be cement on CICR at 8840'

(8/7/08) 9188' – WL tagged cement on CICR @ 9205'

(4/29/08) 12,359' - 2 sacks cement on CIBP @ 12,369

(4/12/08) 12,620' - CBL tag



## **WOLVERINE GAS AND OIL CORPORATION**

Energy Exploration in Partnership with the Environment

October 21, 2008

Mr. Dustin Doucet Utah Division of Oil, Gas and Mining P.O. Box 145801 Salt Lake City, Utah 84114-5801

Re:

Sundry Notices - Wolverine Gas and Oil Company of Utah, LLC

Request for Extended Flaring

Wolverine Federal Arapien Valley 24-1

RECEIVED

OCT 2 2 2008

Dear Mr. Doucet:

DIV. OF OIL, GAS & MINING

Wolverine Gas and Oil Company of Utah, LLC respectfully submits the enclosed Sundry Notice (Form 9) in duplicate for the referenced well. Please accept this letter as Wolverine's written request for confidential treatment of all information pertaining to this well.

Wolverine Federal Arapien Valley 24-1 appears to be a discovery well for what we refer to as the Providence Field. The well penetrated potentially productive intervals in Navajo1 and Navajo2 (sub-thrust Navajo) and select perforation intervals have been flow tested in both formations. However, testing of the Navajo2 (at ~12000') was limited in duration because of the presence of H2S in the associated gas stream and the false expectation that the Navajo1 (at ~ 9000') would produce oil without large quantities of associated gas. While testing both the Navajo1 and Navajo2 formations, total gross field estimated volumes of 5255 BO and 22.4 MMCF were produced over a period exceeding 30 producing days (with BLM and UDOGM approval). Produced gas was flared and vented during this testing period as necessary because the well is remotely located and there are no gas gathering and processing facilities available in the area.

The Navajo1 Formation was found to produce high CO2 content gas and oil. It is anticipated that the Navajo1 gas will be reinjected during oil recovery operations. Multiple development wells and construction of considerable field infrastructure will therefore need to occur before long-term Navajo1 production is initiated.

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The Navajo2 produced high BTU gas with oil, but pressure transient analysis indicates that the formation has low permeability and potential for long term commercial production is questionable. At the end of the 3-day flow test of a 26-foot perforation interval, producing rates were 160 BOPD, 20 BWPD, and 473 MCFD and decreasing. Fracture stimulation can typically improve the long term producing capability of tight formations, so fracture stimulating the Navajo2 is recommended in conjunction with flow testing to better define its commercial viability.

In order to conduct a stabilized production test of the Navajo2 and to determine commerciality of the Navajo2 reservoir, an extended period of flow testing the Navajo2 with flaring of gas is requested per Rules R649-3-19 and R649-3-20. The requested testing and flaring period is 60 days to allow limited production prior to fracture stimulating the formation and then achieve stabilized production rates following the proposed fracture stimulation. During the 60 days of production, it is anticipated that up to 90 MMCF of gas could be flared.

To initiate this planned test without significant delay, your expedited approval of the attached Sundry Notice is respectfully requested. The subject well is on Federal land so BLM approval for this action will also be requested.

Sincerely,

Ellis M. Peterson

Senior Production Engineer Wolverine Gas and Oil

wolverine Gas and Oli

## UNITED STATES DEPARTMENT OF THE INTERIOR

SUNDRY NOTICES AND I		VENTO ITLAI	5. Lease Se	
Do not use this form for proposa abandoned well. Use Form 3160 -	is to drive on to r	proposals.	6. If India	an, Allottee or Tribe Name
SUBMIT IN TRIPLICATE- Other in	nstructions on re	verse side.	7. If Unit	or CA/Agreement, Name and/or No.
l. Type of Well ☐ ☐ Gas Well ☐ ☐ Oth	er			erine Unit fame and No.
2. Name of Operator Wolverine Gas and Oil Company of U	tah, LLC		4	erine Federal Arapien Valley 24-1
a Address 55 Campau NW, Grand Rapids, MI 49503	3b. Phone No. (inc. 616-458-1150	lude area code)	43-03	9-30030 and Pool, or Exploratory Area
Location of Well (Footage, Sec., T., R, M., or Survey Descripti	ion)		Wilde	
2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M				y or Parish, State ete County, Utah
12. CHECK APPROPRIATE BOX(ES)	TO INDICATE NAT	URE OF NOTICE, R	EPORT, C	R OTHER DATA
TYPE OF SUBMISSION	Ţ.	TYPE OF ACTION		
Notice of Intent  Notice of Intent  Acidize  Alter Casing  Casing Repair	Deepen Fracture Treat New Construction		,	Water Shut-Off Well Integrity ✓ Other Activity Update
Final Abandonment Notice Change Plans Convert to Injection	Plug and Abando Plug Back	on Temporarily At	andon	
If the proposal is to deepen directionally or recomplete horizor Attach the Bond under which the work will be performed or proceedings to the following completion of the involved operations. If the operatesting has been completed. Final Abandonment Notices shat determined that the site is ready for final inspection.)  Please see the attached compilation of daily reports	provide the Bond No. on f ation results in a multiple c Ill be filed only after all req	ile with BLM/BIA. Requir ompletion or recompletion i uirements, including reclam	ed subsequent n a new interv ation, have be	t reports shall be filed within 30 days val, a Form 3160-4 shall be filed once seen completed, and the operator has
			J	
			•	
		. A	. •	
14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)				
Ellis Peterson	Title	Sr. Production Engine	er	
Signature Michael Munn	Date	, 0	6/20/2008	
THIS SPACE FO	R FEDERAL OF	STATE OFFICE	USE	
Annroyed by Afflord Go manne Dee	DO-FE	Title		Date 7-29-09

Approved by ACCLOTED LOG TELESTOS PURPOSE.

Conditions of approval, if any, are attached. Approval of this notice does not warrant or

certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. RECEIVED

Office

(Instructions on page 2)

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OCT 3 0 2008



## Wolverine Gas And Oil Company of Utah LLC

Energy Exploration in Partnership with the Environment

Providence F	eld Federal AV 24-1 SW/NW Section 24, T20S, R1E API # 43-039-30030 Sanpete Co Utah	I
3/25/2008	Dirt contractors dug out soft spots in location & recompacted in dry material.	
3/26/2008	Dirt contractors dug out soft spots in location & recompacted in dry material.	
3/27/2008	Dirt contractors dug out soft spots in location & recompacted in dry material. Roustabouts picked up garbage along	
	lease road & plumbed in surface casing valve on well head.	
3/28/2008	Dirt contractors dug out soft spots in location & recompacted in dry material. Roustabouts worked on plumbing in	
	production treater.	
3/29/2008	No activity	
3/30/2008	No activity	
3/31/2008	Set rig anchors, installed wellhead, roustabouts worked on plumbing in production treater & 400 bbl oil tanks.	
4/1/2008	Installed riser & valve on production casing, staged frac tanks for completion rig, worked on plumbing for production	
	treater.	
4/2/2008	Roustabouts dug flowline ditch for flowline to treater, worked on plumbing for 400 bbl oil tanks, cut off casing for rat	
	hole & mouse hole & filled casings with cement.	
4/3/2008	Worked on welding in temp flowline to treater area.	
4/4/2008	Finished welding in flowline & backfilled ditch line.	
4/5/2008	No activity	
4/6/2008	No activity	
4/7/2008	Road rig to location, spot and rig up, spot and set catwalk, SWIFN	
	Plan to install 7" 10K bop's and PU bit and collars & RIH w/ tbg .	
4/8/2008	Spot pump & tank. nipple up bop's then floor. tally BHA and tbg. Start in the hole with BHA & tbg. Tag up on stage	
	tool @9900' kb lay down 1 joint and PU Swivel make up and SWIFN	
	Roustabouts worked on production treater.	
	Plan to drill out stage tool	
4/9/2008	Break circulation and start to turn on bit. Drilled out cement and tagged stage tool @ 9931' KB. Drilled out stage	
	tool and circulated bottoms up. POOH w/tbg and collars, bit. Lay down collars and PU 5 1/2" csg scraper	
	Did have 82' of cement above stage tool. RIH w/scraper. EOT @ 1350' KB SWIFN	
	Plan to RIH and tag up PBTD.	
4/10/2008	Open up well and run tbg out of the derick. Pu tbg off the ground. tag PBTD @ 12,618' KB	
	SWIFN	
	Plan to pickle tbg in am w/Superior well services	
4/11/2008	Bring in equipment. mix 4% kcl in tanks.RU Superior well services to pump pickle job. pump job and RD superior	
	and start out of the w/tbg and scraper.	
	EOT @ 8628'KB SWIFN	
	Plan to POOH w/tbg and run Gyro and CBL	
4/12/2008	RU Schlumberger wireline. PU Scientific drilling tools on wireline and RIH and run directional survey. POOH	
	w/directional tools. RIH w/Radial CBL, Tag PBTD @ 12,620'. Run short strip from 12,620' to 12,000. cement	

bond did not look good. decide to run same pass with 1000 psi, pressure did improve RCBL. Pulled tools

from 12,000' - to cement top approx. 2990' w/ no pressure SWIFN

Plan to rerun lower initial pass from 12,620' - to 12,000' w/3500 psi

4/13/2008 RU wireline. PU Pressure equipment and RIH w/RCBL to PBTD @ 12,620' and pressure up well to 3500 psi. Pull tools up to 11,900', bleed off pressure and POOH w/tools. RD down wireline. PU and RIH with s/n and 4000' tbg, test well to 4800 psi. Good test 15min. bleed down well and RU to swab. swabbed well down to 2500'.

POOH with tbg and s/n. SWIFN

Plan to perforate interval from 12,373' - 12,380'.

4/14/2008 RIH with 3 3/8" gun, 6spf @ 60 degree phasing, 24 gram charges with .40" holes. Perforate from 12,373' - 12,380'.

POOH w/gun and lay down PU and RIH w/wireline set pkr to set @ 12,300'. PKR hung up @ 2593'KB Tried to work pkr loose but to no avail. Decide to set pkr and POOH w/wireline and setting tool. Set pkr and setting tool did not shear off, worked for about 1/2 hr and setting tool came free. POOH with setting tool. RD wireline and release. PU and RIH w/ on/off skirt and tbg, latch up to top of pkr @ 2699'KB tbg measurement tried to set weight on pkr - pkr slid down, pulled up - PKR held, set down - PKR took weight, worked until free. POOH with no pkr, run back in the hole and tag pkr @ 2710' KB. Moved down hole 10' and set. Try to work pkr free - keeps slipping off.

**SWIFN** 

Plan to pull pkr out of the hole. RIH w/HD pkr, set and swab perfs @ 12,373' - 12,380'

4/15/2008 Open well 60psi.bleed down.RIH and circulate down to PKR. Circulated 80bbls of 4%KCL

set down on PKR then pulled over 15k set in neutral position and pump out plug.

PU and release PKR and start out of the hole. lay down PKR and did not find anything wrong with tool. PU 2 joints,arrowset 1 PKR and s/n then rest of tbg. RIH @ 6336' KB.

shut down due to high wind. SWIFN

Roustabouts started transporting production equipment to loc & started site work for oil tanks & treater Plan to RIH and set PKR @ 12,300' KB.RU to swab

Plan to Rin and Set PRR @ 12,300 Rb.Ro to Swat

4/16/2008 Opened well csg/310psi-tbg/280psi .bleed down and finish RIH w/PKR. set PKR @ 12,313' KB. Fill csg w/10bbls 4%. Test 1500psi 15min.good test RU to swab made 10 runs then well unloaded with hard gas flow for 20 min.then well loaded up.RIH w/ swab and made 5 more runs.

recovering 96 total bbls. SWIFN

Roustabouts worked on tank battery construction.

Plan to swab and recover more info on well

4/17/2008 Opened well (csg 100 psi, tbg 1060 psi). blew down tbg and RU to swab. IFL @ 4400' - FL@ 3000' After each run

well flowed gas for 10-15 min each time. Recovered 79 total bbls fluid, after run # 8 csg had 945psi.tried to bleed down but would not get down below 100psi. Decide to test annulus, hook up to csg with rig pump and pumped 145 bbls and caught circulation up tbg. Returns consisted of gaseous fluid, shut down rig pump and returns stopped. Finished pumping annulus volume of 173bbls hook up to the tbg and pump 45 bbls down @ 750 psi and csg came around. decide to release PKR and RIH below perfs and try and set PKR and test. PU and release PKR tbg had 700 psi on it. Hook up to tbg and pump tbg volume of 71 bbls. Well circulated tbg laying dead. RIH to 12,520'KB. Set and try to test. no test Well circulated .release PKR and start out of the hole. pulled 70 stands SWIFN EOT @ 8000'

Plan to pull pkr and RIH w/new HD/PKR

Roustabouts continue on tank battery construction

4/18/2008 Opened well 50psi on both csg & tbg. Bleed down and continue POOH w/tbg and arrowset PKR.

Lay down arrowset and PU HD PKR. run back in the hole. @ 8400' KB well started to flow up tbg hook up and pump 15 bbls 4% to kill tbg. Finish RIH and set PKR @ 12,311' KB. EOT @ 12,377'KB

Page 2 of 8

**Daily Activity** 

Fill csg w/ 18 bbls. Test 1500psi for 25 min. good test. RU to swab. made 7 runs recovering 65 bbls. IFL @ 900', FFL @ 2600' SWIFN (after 30 min tbg had 750psi buildup)

Roustabouts finishing up on tank battery

Plan to shut down till 4/21/2008

4/19/2008 SI tbg pressure 1225 psi, csg pressure 750 psi. Waiting on delivery of T-pak/dehy combo unit & flare stack. Plan to leave well SI until T-pak & flare are hooked up for flowback testing. Estimated to start flowback testing on Wednesday 4/23/08.

4/20/2008 SI tbg pressure 1225 psi, csg pressure 750 psi. Unloaded T-pak/dehy combo unit & VOC flare stack. Plan to start tie ins on production unit.

4/21/2008 SI tbg pressure 1275 psi, csg pressure 750 psi. Roustabouts worked on hooking up flare line to pit & T-pak hook up.

4/22/2008 SI tbg pressure 1275 psi, csg pressure 750 psi. Completed all hook ups for well testing, opened well & flowed for 20 minutes to level off T-pak; at this time the H2s monitoring equipment detected H2s levels beyond the interments range (meter over range @ 500 ppm). Well was SI & will remain SI until our safety group can get additional monitoring equipment on location & arrange for gas samples to be taken to confirm actual ppm of H2s that are present in the gas flows. (Initial flow rate - 200 MCF - 245 tbg psi on 20/64 choke with continuous oil inflow. Oil flow was not measured due to safety.)

4/23/2008 SI tbg pressure 650 psi, csg pressure 980 psi. Roustabouts cleaned up location & removed construction equipment. Arrangements have been made with Frandson Safety to provide H2s training & equipment onsite at midday tomorrow.

Plan to provide onsite H2s training & equipment for all personnel who may be exposed to onsite H2s gasses.

4/24/2008 SI tbg pressure 675 psi, csg pressure 980 psi. Set up H2s rescue packs, gas detection, wind socks & warning signs. Held H2s safety training & certified all personnel to work & perform rescues in H2s environments. RU swab equipment & made 3 swab runs recovering 12 bbls of fluid, mostly water.

Plan to continue swabbing on well until continuous flows are established.

4/25/2008 Opened well TBG 500psi . CSG 750psi .bleed down tbg, and RU to swab IFL @ 2000' Made a total of 15 runs. recovering 137 bbls fluid. well tried to flow after each run.FFL @ 4600' and well kicked off flowed well through out the night, and into the next day.

continue flowing well through T-pak. 4/26/2008 well flowed till 2pm then died off. SWIFN Plan to RU and swab well on 2/28/2008

4/27/2008 no activity

4/28/2008 Opened well TBG 1380psi CSG 2700psi. Attempt to bleed down well through T-pak. Flared gas for 2 hrs and well psi was down to 800 psi and holding. Decide to pump down the tbg and load hole, but returns from csg to frac tank were very gassy, and wind became an issue with rig pump. Decide to move rig pump to south side of location. pumped approx. 195bbls 4% kcl prior to moving rig pump. Pumped another 95 bbls and well broke circulation. pumped a total 380 bbls and well laying dead. SWIFN

Plan to release PKR and POOH with tbg. Run CICR on wireline

4/29/2008 Opened well CSG 950psi TBG 0psi.bleed down 0psi but CSG started to surge fluid. Shut csg in and PU and release PKR . Open up CSG and circulate 180bbls 6% kcl. well dead. Start out of the hole. lay down 26 joints and the rest in the derick. lay down HD PKR. Elements gone off of the PKR.RU wireline and RIH W/ 5 1/2" CIBP and set @12,369'KB POOH w/setting tool, PU and RIH w/dump bailer /2 sacks of cement, dump cement on CIBP. POOH w/dump bailer and RD wireline. SWIFN.

Plan to PU TBG Conveyed perf gun and rest of BHA and Hydrotest 2 7/8" tbg 4/30/2008 OPSI on well. Leave well shut in. decide to wait on running TBG Conveyed gun and BHA till am on 5/1/2008 waiting on wellhead equipment trimmed for h2s.tbg hanger, landing pins and bonnet, upper tree assembly Plan to run TBG conveyed guns and BHA Roustabouts started running vapor lines from 400 bbl tanks to the flare unit. 5/1/2008 Opened well and bled down well gas. 20 psi. make up TBG gun and rest of BHA and 2 3/8" tbg. operator could not stop the traveling blocks. had to engage emergency shut down. Secure well for night. Wait on mechanic. LEED ENERGY mechanic concluded that all was well with the braking system for main drum, return to normal operations in am. Roustabouts installed vapor lines for 400bbl tanks and installed flare unit, also installed flow meters in T-pak Plan to RIH w/ tbg gun and rest of BHA then tbg. 5/2/2008 Opened well.0 psi. PU pkr and the rest of the BHA. Start hydro testing tbg in the hole. Ran to 9000'KB SWIFN. Roustabouts tied in frac tanks to production tanks for more storage capacity. Plan to finish RIH w/ tbg and BHA. landing tbg and perforate well 5/3/2008 Opened well and finished RIH w/ BHA and tbg. set gun top shot @ 12,290'. RU wireline and run correlation log. PU tbg subs and set PKR. Wait on well head equipment, land tbg on tbg hanger and ND floor and BOP'S. set tree on tbg head. test PKR @ 1500psi. Good test, tie flowline to wellhead, drop bar and shoot gun. had gas on tog in 8 min. turn well over to flow testers. 5/4/2008 Flow tested well for 12 hrs to stabilize flow rates. SI well, RU slickline unit and lubricator, RIH with tandem electronic pressure bombs & set in 2 7/8" XN nipple, POOH with wireline, RD and released wireline unit then opened well to production. Flowed well for 5 hrs to try to establish steady rate - well was unloading large slugs of oil which made stabilization impossible. Shut well in for pressure build up. Plan to leave well SI for minimum of 72 hrs. 5/5/2008 Well is SI - see pressure build up tab for surface pressures 5/6/008 Well shut in for Pressure build up 5/7/2008 Well shut in for Pressure build up 5/8/2008 Opened well for flow back. CSG 300 psi / TBG 2100 psi Average flow rates 1mm gas, 409 bbls oil, 24 bbls water per day. Plan to continue flow testing. 5/9/2008 Continue flowing well through T-pak. Average flow rates to the hour: 888 m gas, 354 bbls oil, 13 bbls water per day. Plan to continue flow testing. Continued flowing well - Flow rates for 5/9/08 (784 m gas, 297 bbls oil, 17 bbls water) in 24 hrs. 5/10/2008 Well has been flowing steady rates for the last 12 hrs of 694 m gas, 240 bbls oil, 24 bbls water per day. Plan to continue flow testing. 5/11/2008 Continued flowing well Plan to flow well until 6 AM on the 12 then SI for pressure build up. 5/12/2008 Flowed well till 6am then shut in well for pressure build up. 5/13/2008 Well SI for pressure build up Plan to continue pressure build up test. 5/14/2008 Well SI for pressure build up Plan to pull bombs in the afternoon of the 15th

AM psi TBG 1825 CSG 500. RU wireline and RIH and pull bombs. Lay down bombs and RIH

5/15/2008

w/gauge ring. Made it down to 12,120' KB and got a little tight. Pulled out of the hole w/gauge ring RIH w/ tools to make gradient stops down to 12,000' KB. POOH w/ tools . Found BHT @ 244 degrees Fluid level @ 4215' KB. Did find trace of water @ 12,000 +-. RD wireline SWIFN

Plan to RIH and collect pressurized samples.

5/16/2008 RU wireline and RIH w/ pressurized canisters and collect two samples from 11,500' KB

RD wireline and SWIFN.

Plan to wait till 5/20/2008 to rig up service unit . Waiting on results from samples

<u>5/17//2008</u> no activity

<u>5/18/2008</u> no activity

5/19/2008 no activity

5/20/2008 Move in Nabors well service unit. Spot unit and rig up. Spot pump and tank combo & catwalk/pipe racks

Plan to kill well and POOH w/ BHA and TBG

5/21/2008 RU to tbg and pump 100 bbls of completion fluid. TBG dead. ND wellhead and NU bop's RU floor and related equipment

Bleed down CSG. PU and release PKR. RU and roll hole w/300 bbls completion fluid. start out of the hole w/ BHA and tbg. Pulled 50 stands, then the computer on the rig would not let the traveling blocks move. rig crew tried to reset the

system . Did not work, secure well for the night. EOT @ 9000' KB .

Plan to have Nabors well service computer Tec come down and Diagnosis & fix the problem.

5/22/2008 Problem with computer on rig was Addressed . Back to normal operation.0 pressure on well. POOH w/2 7/8" tbg

lay down PKR and 2 3/8" tbg, and rest of BHA. RU J-W wireline and round trip a 4 5/8" gauge ring to 12,290'

POOH w/ gauge ring. PU 5 1/2" CIBP and set @ 12,280' using schlumberger platform express log.

POOH w/ setting tool, RD wireline, SWIFN

Plan to RIH w/ tbg and tag CIBP @ 12,280' and RU cement company to pump balance plug.

5/23/2008 Opened well . RiH w/ 2 7/8" tbg open ended down to top of CIBP @ 12,280' KB. Tag and pull up 2'

RU Halliburton CO. to pump Balanced cement plug as per procedure. Pumped 5bbls of fresh ahead of the cement then 6.2 bbls of class g cement w/additives. Displace cement to bottom w/69bbls of fresh. lay down 10 joints then reverse w/52bbls CF, then 58 bbls 9# brine w/chemicals and displaced w/ 129 bbls CF. RD Halliburton and lay down 30 more

joints of 2 7/8" tbg. SWIFN.

Plan to resume operations 5/27/2008. finish POOH w/tbg. Wireline in CIBP @9418' to plug back well.

5/24/2008 No activity

5/25/2008 No activity

5/26/2008 No activity

5/27/22008 Opened well. Finish laying down tbg for plug back of well. stand back the rest in the derrick.RU wireline. PU 5 1/2" CIBP

and set @ 9418'. POOH and lay down setting tool. PU dump bailer w/ 2 sacks of cement & RIH and dump cement on CIBP lay down dump bailer. RD wireline. PU TCP assembly as per procedure then run tbg out of the derrick. EOT @ 3000' KB

Plan to RIH w/ tbg and set then test. Drop bar to perforate @ 9217'-9222'

5/28/2008 Opened well. Finish RIH w/ tbg & TCP assembly.RU wireline to RIH and correlate using Platform express log dated 1/17/2008

set PKR @ 8820' KB. RIH w/ wireline and check depths. POOH w/ wireline and RD wireline. test PKR 1500 psi. good test RU for flowback through manifold. Drop bar . Perforate 9217'-9222' instant pressure 10 psi. open well to tank and pressure

bled off.RU to swab.

Made 4 runs, recovered 40 bbls fluid. IFL @3374' FFL@ 2300' SWIFN

Plan to swab well & recover fluid samples and establish rates

5/29/2008 Opened well tbg psi 360 csg psi 450. RU to swab. (refer to swab sheet for detail)

IFL @ 1822.made 6 runs and well kicked off flowing. Turn well over to flow testers

Plan to flow well

5/30/2008 Well shut in @ 6am till 10:30am for build up. TBG pressure built up to 700psi. Hook up to tbg and kill w/ 60 bbls 4% kcl.

Nabors rig engine died and would not start. Wait till am on mechanic.

Plan to fix engine problem and resume killing well and POOH w/tbg and BHA.

5/31/2008 Opened well. TBG 0psi & CSG 0psi.Mechanic found and fixed problems with the rig . PU and release PKR .

reverse well with 200 bbls of completion fluid. POOH w/ tbg and TCP BHA. SWIFN

Plan to RIH w/ CICR and squeeze off perfs @ 9217'-9222'

6/1/2008 Opened well 0psi on well. PU & RIH w/ 5 1/2" CICR and set @ 9205' KB .test csg 1000psi 15 min. good test

bleed down, hook up to the and fill establish an injection rate of 2.5bbls pm @ 900psi.

**SWIFN** 

Plan to squeeze of perfs @ 9217'-9222' in am

6/2/2008 Opened well RU Halliburton cement company. hold safety meeting then pressure test iron 3000 psi. fill tbg and establish

injection rate.2.5bpm @ 2000psi, pump 22 bbls. Start in with cement. clear cement, then start displacement down @ 1.5 bpm

with 3.8 bbls of cement left in tbg slowed rate down to 1/2bpm 700 psi, pumped 3.3 bbls away

leaving 1/2 bbl in tbg. sting out, dumping remaining 1/2 bbl on top of retainer. Pull up to 9190' and reverse out

with 70 bbls completion fluid. Pressure prior to stinging out of CICR was 1500psi. RD Halliburton . POOH to 4000' KB

and RU and swabbed well down to 2500'.SWIFN

Plan to POOH w/tbg and perforate 9160'-9166 . 9145'-9154'

6/3/2008 Opened well 0psi.Finish POOH w/tbg and stinger.RU wireline. PU and RIH gun to perforate from 9160'-9166',9145'-9154'

Referenced depths off CBL dated 4/12/2008 9158'-9164',9143'-9152'.shoot gun and no initial pressure. POOH w/gun.

Shot well w/.40 diameter holes.4" carriers,6 spf on 60 degrees phasing with 25 gram charges.

RD wireline. PU and RIH w/ 5 1/2" RBP - 1 joint 2 3/8" tbg- 5 1/2" PKR, then rest of tbg. Set plug @ 9180" KB set PKR @ 90-

TEST PKR to 1000psi. Good test.RU to swab.

made 11 total runs, recovering 74 bbls of fluid. IFL @ 2000' FFL@ 8500'

**SWIFN** 

Plan to swab and recover more data

6/4/2008 AM report - well filled tubing from 9000' & flowed 29 bbls of oil to the frac tank overnight with steady gas.

Recovered 44 bbls oil & 27 bbls water to date.

RU and make 1 swab run. IFL@ 8000'. Recovered 5 bbls fluid. heavy gas during run. hang back swab

decide to send well to T-pak. Switch lines and flow well.

flared gas for 20 min. then flame died. Could not get gas to light after first burn.

Turned well over to flow testers

6/5/2008 Shut well in @ 9:30 for pressure build up.

6/6/2008 Well SI - no activity

6/7/2008 Well SI - no activity

6/8/2008 Well SI - no activity

6/9/2008 Well SI - no activity (Tubing psi 1050, Csg psi 300)

Plan to open well & flow for clean up.

6/10/2008 Installed plunger lift on well & turned into production @ 6:00 PM

6/11/2008 Well produced 15 bbls of oil & 48 bbls of water over night. SI pressures between trips

averaged 240 psi with 1 1/2 hrs SI between trips.

6/11/2008 Continued to flow well on plunger lift - well leveled out at rates of 120 bbls oil, 0 bbls water & 300 MCF in 24 hrs.

Average pressure between trips was 380 psi (1 hr SI) Recovered 93 bbls oil & 63 bbls of water on plunger lift.

Plan to rig up Halliburton & break down perf interval 9145'-9154' and 9160'-9166' using completion water.

6/12/2008

SI well, pulled plunger, RIH & retrieved bumper spring, RU Halliburton, held safety meeting, pressure tested lines to 6350 psi. Opened bypass on pkr & pumped 14.2 bbls of breakdown fluid consisting of 4% KCL completion fluid mixed with Halliburton's GasPerm 1000, SD due to faulty pressure sensor on pump line, repaired sensor, resumed pumping @ 1.5 bpm with 215 psi on the tubing. Pumped a total of 25 bbls of breakdown fluid then started dropping buoyant balls throughout the 600 gallon stage (60 balls total in this stage) then started dropping bioballs after pumping a total of 37.8 bbls, (dropped 60 bioballs in this 600 gallon stage). Shut down & closed pkr bypass with 20,000# compression. Resumed pumping the final 2350 gallon stage @ 4.5 bpm with 2650 psi on tubing. Initially the pressure peaked at 2950 psi then continued to fall until 77 bbls of total fluid was pumped, the tubing pressure then started climbing indicating ball action throughout the remainder of the stage. The peak pressure was 3359 psi with a constant rate of 4.5 bpm throughout the stage. Shut down, (ISIP 2650) monitored shut in pressure for 25 minutes (tubing pressure fell to 0 psi in 20 minutes) SWIFN.

Note: Pumped a total of 114.27 bbls of KCL water (60 bbls into formation) A total of 120 balls were pumped. See attached pump reports for details.

Plan to swab well in & test production rates.

6/13/2008

Open well. tbg on a vac RU to swab. IFL @ 2000'. Made 5 runs recovering 31bbls. Well started to flow Flowed well to frac tank, recovering 87 bbls flowed back .did recover frac balls in tank. send well to T-PAK @1600HRS turn well over to pumpers

Plan to flow well and monitor rates

6/14/2008

Well still flowing thru T-PAK. Average hourly rates were tbg pressure 410 - gas rate 700m - 7 boph - 0 bwph continue flowing well

Turned well over to pumpers

Plan to flow well and monitor rates

6/15/2008

Relieved pumpers. Well flowed thru the night. Average flow rates were - tbg psi @ 400 - gas rate 800m/day - 7.9 boph 3 bwph. Continue flowing well until 2:30 pm, then shut well in for night Plan to kill well and prepare to move up hole.

6/16/2008

Open TBG 1100 psi.bleed down pressure and RU and pump 30 bbls completion fluid down tbg. PU and release PKR RIH and latch up RBP and release and bring up to 9138' KB.Set and get off plug. Pull PKR up to 9051' KB .tested RBP got pressure to 1400 psi. No test. RIH and grab RBP release and pulled up to 9136' KB.plug kept slipping after running through the motions to set. Tried to set and test 3 times. All three times after fighting plug to set could not get over 1400 psi . Pressure would bleed right down. Decide to POOH PKR & RBP. Elements on plug were ate up wait on hot shot w/ new RBP. SWIFN

Plan to PU new plug, RIH, swab down and POOH w/ tbg

6/17/2008

Well on a vacuum in the am. Pu and RIH w/5 1/2" RBP. Set plug @ 9138'KB. Load well w/ 10bbls completion fluid. test plug to 3000 psi for 15min. Good test. bleed down well. roll hole w/ 160 bbls clean completion fluid. RU to swab. Swab well down to 2500'. Hang swab back & POOH w/ tbg and retrieving head. SWIFN Plan to perforate interval from 9104' - 9131' then RIH w/ tbg and PKR.

6/18/2008

Opened well csg on a vacuum. RIH w/ 5 1/2" HD PKR with 1 joint and Retrieving head to 4000' to test RBP, set PKR and test plug to 3000 psi 15 min. good test. POOH w/ BHA and tbg. RU Wireline, RIH w/4" carriers loaded 6spf .40 dia. Hole with 60 degrees phasing 25 gram charge. Shoot interval @ 9104' - 9131'. POOH w/gun, well on a blow Pu and RIH w/pump out ceramic disc sub - 6' x 2 3/8" pup - 2 3/8" xn 1.870 nipple - 6' x 2 3/8' pup - 5 1/2" Arrowset 1 PKR w/ 2 3/8" on/off tool seal sub. Set PKR @ 9000'. POOH w/ setting tool, RD wireline. RIH w/on/off skirt, 2 7/8" x 2 3/8" XO, 1 joint 2 7/8" tbg - 2 7/8" x 2.225 SN, then rest of tbg. space out and land tbg w/ hanger in wellhead. Load csg w/15 bbls test 1500psi. Good test. Nipple down rig floor and BOP. Nipple up wellhead, pump out ceramic disc w/6 bbls & 1500 psi tbg went on a vacuum. RU swab equipment made 5 runs recovering 30bbls fluid. Well kicked off.

Turn well over to flow testers

Plan to rig down and move service unit off

6/19/2008

Well still flowing rig down service unit clean up location and move off.

Flow tested well - 681 mcfpd, 94 bopd, 105 bwpd

Plan to continue flow testing.

Supervisor:

Fernando Ortega

Rig Operator:

Form 3160-5

(April 2004) UNITED STATES DEPARTMENT OF THE IN	OMBINO, 1004-0137 Expires: March 31, 2007	
BUREAU OF LAND MANAG		5. Lease Serial No.
SUNDRY NOTICES AND REPORT		6. If Indian, Allottee or Tribe Name
abandoned well. Use Form 3160-3 (APE	nn of to re-enter an ) for such proposals.	NA NA
SUBMIT IN TRIPLICATE- Other instruct	ions on reverse side.	7. If Unit or CA/Agreement, Name and/or No.
1. Type of Well ☐ ☐ ☐ Gas Well ☐ ☐ Other		Wolverine Unit
hand hand hand		8. Well Name and No. Wolverine Federal Arapien Valley 24-1
2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC		9. API Well No.
	Phone No. (include area code) 616-458-1150	43-039-30030
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)	010-430-1130	10. Field and Pool, or Exploratory Area Wildcat
2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M		11. County or Parish, State
		Sanpete County, Utah
12. CHECK APPROPRIATE BOX(ES) TO INI	DICATE NATURE OF NOTI	ICE. REPORT. OR OTHER DATA
TYPE OF SUBMISSION	TYPE OF ACTI	<u> Principal de la companya del companya de la companya del companya de la company</u>
		tion (Start/Resume) Water Shut-Off
Notice of Intent	Fracture Treat Reclam	
— sacsodami riobori	New Construction Recomp	
Winel Abendonment Notice	· ·	rarily Abandon  Disposal
following completion of the involved operations. If the operation resultesting has been completed. Final Abandonment Notices shall be filed determined that the site is ready for final inspection.)  Please see the attached compilation of daily reports as an up-	only after all requirements, includin	g reclamation, have been completed, and the operator has
•		A CONTRACTOR OF THE CONTRACTOR
	•	
	$\mathcal{C}_{\mathcal{C}}$	
14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)	1	
Ellis Peterson	· Title Sr. Production	Engineer
Signature Mish Maura	Date	06/27/2008
THIS SPACE FOR FEE	DERAL OR STATE OF	FICE USE
Approved by Accepted for Records Pur	Title	Date 7-29-08
Conditions of approval, if any, are attached. Approval of this notice does certify that the applicant holds legal or equitable title to those rights in the which would entitle the applicant to conduct operations thereon.		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make person the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.



# Wolverine Gas And Oil Company of Utah LLC

Energy Exploration in Partnership with the Environment

Providence Field

Federal AV 24-1

SW/NW Section 24, T20S, R1E API # 43-039-30030

Sanpete Co Utah

6/20/2008

Flow tested well - 654 mcfpd, 109 bopd, 92 bwpd

Plan to continue flow testing.

6/21/2008

Flow tested well - 684 mcfpd, 119 bopd, 102 bwpd

Plan to continue flow testing.

6/22/2008

Flow tested well - 686 mcfpd, 105 bopd, 104 bwpd

Plan to continue flow testing.

6/23/2008

Flow tested well - 694 mcfpd, 114 bopd, 122 bwpd

Plan to pump ball job tomorrow

6/24/2008

Well continued to flow steady rates.

RU Halliburton pump equipment, held safety meeting pressure tested lines to 3200 psi, pressured csg to 2000 psi. RD lines & RU to tbg. Pressure tested lines to 7400 psi, pumped 500 gallons of breakdown fluid stepping the rate up to 5 bpm at a peak pressure of 2810 psi, then pumped 1000 gallons of breakdown fluid containing 120 buoyant balls followed by 1000 gallons of breakdown fluid containing 120 BioBalls, followed by 3716 gallons of break down fluid to displace balls to perfs. Shut well in (ISIP 1000 psi) RD & released Halliburton pump equip. Note: Peak pressure during ball action was 2675 psi.

RU swab equipment & swabbed well in, then turned over to flow testers.

Supervisor:

Fernando Ortega

Rig Operator:

Form 3160-5 (April 2004)

1. Type of We

3a Address

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

#### SUNDRY NOTICES AND REPORTS ON WELLS

Casing Repair

2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC

4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M

determined that the site is ready for final inspection.)

55 Campau NW, Grand Rapids, MI 49503

TYPE OF SUBMISSION

Notice of Intent

Subsequent Report

UNITED STATE: DEPARTMENT OF THE BUREAU OF LAND MAN	FORM APPROVED OMB No. 1004-0137 Expires: March 31, 2007  5. Lease Serial No. UTU-80907			
SUNDRY NOTICES AND REI				
Do not use this form for proposals t abandoned well. Use Form 3160-3 (	If Indian, Allottee or Tribe Name     NA			
JBMIT IN TRIPLICATE- Other insti	ructions on reverse	side.	7. If Unit or CA/Agreement, Name and/or No.  Wolverine Unit	
ell Oil Well □ □ □ Gas Well □□ □ Other			8. Well Name and No.	
rator Wolverine Gas and Oil Company of Utah, LLC			Wolverine Federal Arapien Valley 24-1  9. API Well No.	
3b. Phone No. (include area code)		ea code)	43-039-30030  10. Field and Pool, or Exploratory Area	
NW, Grand Rapids, MI 49503	616-458-1150			
Well (Footage, Sec., T., R., M., or Survey Description)			Wildcat	
549' FWL, Sec. 24, T20S, R1E, SLB&M			11. County or Parish, State	
			Sanpete County, Utah	
12. CHECK APPROPRIATE BOX(ES) TO	INDICATE NATURE	OF NOTICE, RE	EPORT, OR OTHER DATA	
SUBMISSION	TYPE	OF ACTION		
Acidize	Deepen [	Production (Star	t/Resume) Water Shut-Off	
Intent Alter Casing	Fracture Treat	Reclamation	Well Integrity	

✓ Other Activity Update

Change Plans Temporarily Abandon Plug and Abandon Final Abandonment Notice Convert to Injection Plug Back Water Disposal 13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has

Recomplete

New Construction

Please see the attached compilation of daily reports as an update of testing and completion activities at this exploratory well.

CONFIDENTIAL

e Sr. Production E	Ingineer	
ne .	/07/03/2008	
R STATE OFF	ICE USE	
Title		Date 7-29-08
Office		
	R STATE OFF	R STATE OFFICE USE  Title

RECEIVED States any false, fictitious or fraudulent statements or representations as to anymatter within its jurisdiction.

(Instructions on page 2) 09840016 5 UDOGM

OCT 3 0 2008

DIV. OF OIL, GAS & MINING



#### **Wolverine Gas And Oil Company** of Utah LLC

Energy Exploration in Partnership with the Environment

Providence Field

Federal AV 24-1

SW/NW Section 24, T20S, R1E API # 43-039-30030

Sanpete Co, Utah

6/25/2008

Flow tested well - 1241 mmcfpd, 166 bopd, 167 bwpd.

6/26/2008

Flow tested well - 1227 mmcfpd, 162 bopd, 159 bwpd.

Plan to RU service unit to run final production equipment.

6/27/2008

MIRUSU, spot pump and run pump lines, shut down so Nabors well Service Tech can fix problem

with computer on the rig.

Plan to make repairs to rig, ND wellhead and NU BOP.

6/28/2008

Open tbg 1200 psi, bleed head off tbg & hook up and kill tbg w/ 40 bbls of completion fluid. ND wellhead

NU BOP, rig floor and related equipment. SWIFN

Plan to release PKR and POOH with tog . RIH and retrieve plug.

6/29/2008

Opened well 300psi on tbg. Hook up and top kill tbg w/40 bbls. Pu on tbg release PKR. Lay down tbg hanger and

reverse w/200bbls completion fluid.POOH w/tbg and BHA. PU and RIH w/ retrieving head and tbg .

RIH to 9000' KB SWIFN

Plan to release & pull plug RIH w/production BHA

6/30/2008

Opened well 0 psi. Finish RIH w/retrieving head. Tag top of plug @ 9138' KB. PU and break circulation down csg,

pump 25 bbls to fill well and circulate down to plug w/55 bbls. Circulate bottoms up, RIH and latch up plug and release

POOH w/ plug. Lay down plug, PU and RIH w/ BHA as follows - 2 3/8" wireline entry guide - 1 joint 2 3/8" tbg -

2 3/8" xn w/ 1.870 ID - 2 3/8 " 6' SUB - 2 3/8" x 2 7/8" xo- 5 1/2" arrowset 1 PKR (Nickel plated) -

1 joint 2 7/8" tbg - 2 7/8" x 2.225 SN -rest of tbg- 2 10' X 2 7/8" SUBS - TBG Hanger- set PKR w/20k compression

Center element on PKR @ 9048' KB, EOT @ 9090' KB. Land tbg & fill w/ 18bbls, test to 1000 psi for 15 min.

Bleed down csg. ND floor and BOP. NU Wellhead. SWIFN

Plan to swab well in and rig down. RU slickline and run pressure gauges

7/1/2008

Open well up.0 psi tbg, RU to swab. Made 10 runs recovering 72 bbls IFL @ 1100' FFL @ 3000'

Well kicked off flowing, RDMOSU

Turned well over to production.

Average production 529 Mcfpd, 104 bopd, 278 bwpd

Plan to flow test well until the morning of July 4th then SI for bottom hole pressure build up.

7/2/2008

Flow tested well - 734 Mcfpd, 114 bopd, 198 bwpd.

Supervisor:

Jernando Ortega

CONFIDENTIAL

Form	3160-5
(April	2004)

1. Type of Well

3a. Address

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

#### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

Gas Well□□

2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC

4. Location of Well (Footage, Sec., T., R, M., or Survey Description)

2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M

55 Campau NW, Grand Rapids, MI 49503

OM B No. 10 Expires: Marc	04-0137
ease Serial No.	11/1/2
UTU-80907	· · · · · · · · · · · · · · · · · · ·

5.	Lease Serial No. UTU-80907	2.7%
6.	If Indian, Allottee or Tri	be Name

	NA
_	7. If Unit or CA/Agreement, Name and/or No.
_	Wolverine Unit
_	8. Well Name and No. Wolverine Federal Arapien Valley 24-1

9 API Well No. 43-039-30030

10. Field and Pool, or Exploratory Area

11. County or Parish, State

			Sanpe	ete County, Utah
. 12. CHECK A	PPROPRIATE BOX(ES) T	O INDICATE NATUR	E OF NOTICE, REPORT, C	R OTHER DATA
TYPE OF SUBMISSION		TYP	E OF ACTION	
Notice of Intent Subsequent Report Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (Start/Resume) Reclamation Recomplete Temporarily Abandon Water Disposal	Water Shut-Off  Well Integrity  ✓ Other Activity Update

3b. Phone No. (include area code)

616-458-1150

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

Please see the attached compilation of daily reports as an update of testing and completion activities at this exploratory well.

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)		
Ellis Peterson	Title Sr. Produc	ction Engineer
Signature His Monny	Date	07/11/2008
THIS SPACE FOR FEDERAL	OR STATE	OFFICE USE
Approved by Accepted Lott Theorems Theorems Conditions of approval, if any, are attached. Approval of this notice does not warrant	Title	Date 7-29-08
Conditions of approval, if any, are attached. Approval of this notice does not warrant certify that the applicant holds legal or equitable title to those rights in the subject leas which would entitle the applicant to conduct operations thereon.		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2) OGPHOOITS UDOGM

OCT 3 0 2008



## Wolverine Gas And Oil Company of Utah LLC

Energy Exploration in Partnership with the Environment

Providence Fi	ield Federal AV 24-1	SW/NW Section 24, T20S, R1E	API# 43-039-30030	Sanpete Co, Utar
7/3/2008	Flow tested well - 792 Mcfpd,	110 bopd, 212 bwpd.		
7/4/2008	Well SI for pressure build up			
7/5/2008	Well SI for pressure build up			
7/6/2008	Well SI for pressure build up	•		
<u>7/7/2008</u>	Well SI for pressure build up			
7/8/2008	Well SI for pressure build up			
	Plan to pull pressure bombs &	run static pressure gradient survey.	•	
7/9/2008		U Tefteller wireline service, retrieved	pressure bombs, round trippe	d a 1.750" gauge ring to
		gradient survey with stops every 1000		
		). RU Fesco, RIH & took bottom hole		
	Plan to recover subsurface war			
7/10/2008	Opened well, RIH & retrieved v	vater sample from 5' off bridge plug, F	POOH with wireline & shut we	ell in.
		ssure gradient surveys will be sent or		
	Plan to leave well SI until further		-	

Supervisor:

Tommanda Ontono

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

	expires, marc	11 51, 2007
Lease Seria	l No.	

				. 5	8-
Form 3160-5 (April 2004)  DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT  SUNDRY NOTICES AND REPORTS OF				FORM APPROVED OM B No. 1004-0137 Expires: March 31, 2007  5. Lease Serial No.	
			FIIS	UTU-80907	" [4]
	this form for proposals			6. If Indian, Allottee or Tribe Name	
	well. Use Form 3160-3 (			NA ,	
SUBMIT IN T	RIPLICATE- Other inst	ructions on rev	erse side.	7. If Unit or CA/Agreement, Name and/or	No.
1. Type of Well ✓ Oil Well □ □	☐ Gas Well ☐ ☐ Other			Wolverine Unit  8. Well Name and No.	<del></del>
2. Name of Operator Wolverine	Gas and Oil Company of Utah,	LLC	•	Wolverine Federal Arapien Valley  9. API Well No.	24-1
3a. Address		3b. Phone No. (incl.	uda araa coda)	9. API WEI NO. 43-039-30030	
55 Campau NW, Grand Rap	ids, MI 49503	616-458-1150	<u></u>	10. Field and Pool, or Exploratory Area	
4. Location of Well (Footage, Sec	c., T., R., M., or Survey Description)			Wildcat	
2331' FNL, 549' FWL, Sec.	24, T20S, R1E, SLB&M			11. County or Parish, State	
				Sanpete County, Utah	<u> </u>
12. CHECK	APPROPRIATE BOX(ES) TO	-		REPORT, OR OTHER DATA	
TYPE OF SUBMISSION		T	YPE OF ACTION		<del></del>
The state of	Acidize	Deepen	Production (S	´ <b>¬</b>	
Notice of Intent	Alter Casing	Fracture Treat	Reclamation	Well Integrity	_
✓ Subsequent Report	Change Plans	New Construction	, <u>, , , , , , , , , , , , , , , , , , </u>	Other Activity Update	<del>'</del>
Final Abandonment Notice	Change Plans Convert to Injection	Plug and Abandon Plug Back	n Temporarily A  Water Disposa		
following completion of the testing has been completed. determined that the site is rea.  There has been no active scheduled and the well well to the state of the scheduled and the well to the scheduled and the scheduled and the scheduled are the scheduled and the scheduled are the	involved operations. If the operation Final Abandonment Notices shall be ady for final inspection.) ity on the subject well since the	n results in a multiple co e filed only after all requ last report. The well v days prior to produ	mpletion or recompletion irements, including reclar l is currently shut in un iction logging. This is a	red subsequent reports shall be filed within 30 d in a new interval, a Form 3160-4 shall be filed on nation, have been completed, and the operator hat production logging service can be anticipated within the next couple of week	once nas
14. I hereby certify that the for Name (Printed/Typed)  Ellis Peterson  Signature	Maron	Date		07/18/2008	
	THIS SPACE FOR	FEDERAL OR	STATE OFFICE	USE	
Approved by ACCEPTED	be Elestos J	Pursosse	Title	Date 7 - 29 - 68	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Office

(Instructions on page 2) 09 9400185 UDOGM

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease

which would entitle the applicant to conduct operations thereon.

**RECEIVED** OCT 3 0 2008

Form 3160-5 (April 2004)

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

#### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160 - 3 (APD) for

" A MANAGE
FORM APPROVED OM B No. 1004-0137
OMB No. 1004-0137
Expires: March 31, 2007

5.	Lease Serial No.
	HTH-80907

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE- Other instructions on reverse side.  1. Type of Well Gas Well Gas Well Other  2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC  3a. Address 3b. Phone No. (include area code)			
	7. If Unit or CA/Agreement, Name and/or No.		
3a Address 3b. Phone No. (include area code)	Wolverine Unit  8. Well Name and No.		
50. There it. (we have an ear control	9. API Well No. 43-039-30030 10. Field and Pool, or Exploratory Area		
55 Campau NW, Grand Rapids, MI 49503 616-458-1150			
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)  2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M	Wildcat  11. County or Parish, State		
	Sanpete County, Utah		
12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, RE	EPORT, OR OTHER DATA		
TYPE OF SUBMISSION TYPE OF ACTION			
Notice of Intent       ☐ Acidize       ☐ Deepen       ☐ Production (Start Reclamation)         ✓ Subsequent Report       ☐ Casing Repair       ☐ New Construction       ☐ Recomplete         ☐ Change Plans       ☐ Plug and Abandon       ☐ Temporarily Abandon         ☐ Final Abandonment Notice       ☐ Convert to Injection       ☐ Plug Back       ☐ Water Disposal	Well Integrity  ✓ Other Activity Update		

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

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### RECEIVED OCT 3 0 2008

DIV. OF OIL, GAS & MINING

<ol> <li>I hereby certify that the foregoing is true and correct Name (Printed/Typed)</li> </ol>				,
Ellis Peterson	Title Sr. Production	Engineer		
Signature Mis Munn	Date	08/12/2008		
THIS SPACE FOR FEDERA	AL OR STATE OF	ICE USE		
approved by Sha Al	Title	I	Date 2	9-3-08
Conditions of approval, if any, are attached. Approval of this notice does not war certify that the applicant holds legal or equitable title to those rights in the subject which would entitle the applicant to conduct operations thereon.				

States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

(Instructions on page 2) 09 PHO019 S UDOGM



## Wolverine Gas And Oil Company of Utah LLC

Energy Exploration in Partnership with the Environment

Providence	Field Federal AV 24-1 SW/NW Section 24, T20S, R1E API # 43-039-30030 Sanpete Co, Utah
7/11/2008	Well SI, no activity
7/12/2008	Well SI, no activity
7/13/2008	Well SI, no activity
7/14/2008	Well SI, no activity
7/15/2008	Well SI, no activity
7/16/2008	Well SI, no activity
7/17/2008	Well SI, no activity
7/18/2008	Well SI, no activity
7/19/2008	Well SI, no activity
7/20/2008	Well SI, no activity
7/21/2008	Well SI, no activity
7/22/2008	Well SI, no activity
7/23/2008	Well SI, no activity
7/24/2008	Well SI, no activity
7/25/2008	Well SI, no activity
7/26/2008	Well SI, no activity
7/27/2008	Well SI, no activity
7/28/2008	Well SI, no activity
7/29/2008	Well SI, no activity
7/30/2008	Well SI, no activity
7/31/2008	Well SI, no activity
8/1/2008	Well SI, no activity
8/2/2008	Well SI, no activity
8/3/2008	Well SI, no activity
8/4/2008	Opened well @ 10:00 AM (1200 psi tubing, 0 psi csg)
	Plan to produce well to stabilize flow rates for production log on Thursday the 7th.
8/5/2008	Well produced 119 bbls oil, 108 bbls water & 429 mcf gas in 14 hours. FTP 260 psi
8/6/2008	Well produced 135 bbls oil, 220 bbls water & 722 mcf gas in 24 hours. FTP 260 psi
	Plan to run production log around 11:00 AM tomorrow
8/7/2008	Well produced 93 bbls oil, 279 bbls water & 675 mcf gas in 24 hours. FTP 260 psi
•	RU Schlumberger wireline unit, PU Gamma / CCL equipment, RIH & tagged bottom at 9188 KB, POOH. PU production
	logging equipment, RIH & logged across production intervals from 9166'-9104', POOH & released wireline unit.
	See attached production logs - further production log analysis will be available the week of August 11th.
	Plan to continue flowing well to document water production.
8/8/2008	Well production 128 bopd, 220 bwpd, 722 MCFPD
8/9/2008	Well production 127 bopd, 199 bwpd, 744 MCFPD
8/10/2008	Well production 127 bopd, 277 bwpd, 730 MCFPD
<u>8/11/2008</u>	Well production 130 bopd, 293 bwpd, 740 MCFPD

Supervisor:

7ony E. Cook

	UNITED STATES DEPARTMENT OF THE INTERIC BUREAU OF LAND MANAGEMEN	Γ	NORM APPROVED OMB No. 1004-0137 Expires: March 31, 2007  5. Lease Serial No.
Do not use ti	NOTICES AND REPORTS ( his form for proposals to drill or rell. Use Form 3160-3 (APD) for	to re-enter an	6. If Indian, Allottee or Tribe Name NA
I. Type of Well Oil Well □	As, MI 49503 616-458 T., R, M., or Survey Description)	No. (include area code)	7. If Unit or CA/Agreement, Name and/or No.  Wolverine Unit  8. Well Name and No.  Wolverine Federal Arapien Valley 24-1  9. API Well No. 43-039-30030  10. Field and Pool, or Exploratory Area Wildcat  11. County or Parish, State
12. CHECK A	PPROPRIATE BOX(ES) TO INDICATE		Sanpete County, Utah  EPORT, OR OTHER DATA
If the proposal is to deepen dire Attach the Bond under which the following completion of the intesting has been completed. Fit determined that the site is ready Please see the attached control of the intesting has been completed. Fit determined that the site is ready Please see the attached control of the intesting has been completed.	Change Plans Plug and Convert to Injection Plug Bac ed Operation (clearly state all pertinent details, in ectionally or recomplete horizontally, give subsurful work will be performed or provide the Bond Novolved operations. If the operation results in a minal Abandonment Notices shall be filed only after of final inspection.)  Implication of daily reports as an update of the and activities on the well are suspended.	Abandon Temporarily Al Water Disposal Cluding estimated starting date of a face locations and measured and truly on on file with BLM/BIA. Requirable completion or recompletion all requirements, including reclaments and completion activities for a few weeks while waiting 1014' - 9166' using 100 sacks of	Well Integrity  ✓ Other Activity Update  bandon
			RECEIVED OCT 3 0 2008 DIV. OF OIL, GAS & MINING
14. I hereby certify that the fore Name (Printed/Typed)  Ellis Peterson	going is true and correct	Title Sr. Production Engine	eer 08/20/2008
Approved by	THIS SPACE FOR FEDERA	L OR STATE OFFICE	
certify that the applicant holds lega which would entitle the applicant to	l or equitable title to those rights in the subject loconduct operations thereon.	ease Office R	0

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(Instructions on page 2) 09PH0020S UD06M



## Wolverine Gas And Oil Company of Utah LLC

Energy Exploration in Partnership with the Environment

Providence Field Federal AV 24-1

SW/NW Section 24, T20S, R1E API # 43-039-30030

Sanpete Co, Utah

8/12/2008 Well production 151 bopd, 232 bwpd, 735 MCFPD

8/13/2008 Well production 120 bopd, 217 bwpd, 740 MCFPD

8/14/2008 Well production 128 bopd, 217 bwpd, 740 MCFPD

8/15/2008 Well production 63 bo, 118 bw, 735 MCF in 14 hrs. Shut well in at 2:00 PM. Well will remain SI until completion rig

moves back on for further evaluations.

<u>8/16/2008</u> No activity

8/17/2008 No activity

8/18/2008 No activity

8/19/2008 No activity

Supervisor:

Tony E. Cook

#### Tight Hole

#### Wolverine Gas & Oil Company of Utah, LLC Completion Procedure

#### Arapien Valley 24-1 Providence Field

Purpose:

Plug back existing Navajo1 perforations and then complete and test additional

Navajol interval.

PERTINENT INFORMATION

Location:

2331' FNL, 549' FWL (SW-NW)

Section 24, Township 20 South, Range 1 East

Sanpete County, Utah

Elevation:

5554' GL, 5580' KB

TD:

13,050

PBTD:

9188' (cement on top of CICR @ 9205')

API No.:

43-039-30030

Casing:

13-3/8", 68.0# @ 2017', cemented to surface

9-5/8", 47.0# HCL-80 and 53# HCP-110, LT&C @ 10,373', foam cemented with

returns to surface

5-1/2", 20.0#, P-110, LT&C @ 12,755', stage tool at 9950', cemented with 735 sks

50:50 Poz (Stage 1) and 1635 sks of Class G (Stage 2)

Wellhead:

Tubing Head Flange – 7-1/16" 10k w/ 2-7/8" EUE top connection

Tubing:

2-7/8", 6.5#, L-80, EUE, 8rd (new)

Production Casing Specs:

5-1/2", 20.0#, P-110, LT&C, 8rd, ID: 4.778" Drift: 4.653"

Collapse: 11,080 psi Burst: 12,640 psi (80% 10,112 psi)

Tubing Specs:

2-7/8", 6.5#, L-80, EUE, 8rd, ID: 2.441" Drift: 2.347"

Collapse: 11,170 psi Burst: 10,570 psi (80% 8456 psi)

Joint: 145,000 lbs (80% 116,000 lbs)

Capacities:

5-1/2", 20.0#:

 $0.0221 \text{ Bbls/ft}, 0.1245 \text{ ft}^3/\text{ft}$ 

2-7/8", 6.5#:

 $0.00579 \text{ Bbls/ft}, 0.0325 \text{ ft}^3/\text{ft}$ 

5-1/2" x 2-7/8" Annulus:

 $0.0141 \text{ Bbls/ft}, 0.0794 \text{ ft}^3/\text{ft}$ 

BH Temperature:

200°F @ 9000'

**Existing Navajo2 Perforations:** 

12,373'- 12,380' MD (12,370'- 12,377' TVD), 7', 42 holes (below CIBP @ 12,369')

12,290'- 12,316' MD (12,287'- 12,313' TVD), 26', 156 holes (below CIBP @ 12,280')

All depths are referenced to Schlumberger Platform Express CN-TDL-GR log dated 2/21/2008.

Page 2 Arapien Valley 24-1 Initial Completion Procedure 4 August 13, 2008

#### **Existing Navajo1 Perforations:**

9217'- 9222' MD (9216'- 9221' TVD), 5', 30 holes (below CICR @ 9205')

9160'- 9166' MD (9159'- 9165' TVD), 6', 36 holes

9145'- 9154' MD (9144'- 9153' TVD), 9', 54 holes

9104'- 9131' MD (9103'- 9130' TVD), 27', 162 holes

#### Proposed Navajol Perforations:

8942'- 8948' MD (8941'- 8947' TVD), 6', 36 holes

All depths are referenced to Schlumberger Platform Express CN-TDL-GR log dated 1/17/2008. CBL dated 4/12/2008 is 2' shallow to open-hole logs at Navajo1 depth.

Note: Poisonous Hydrogen Sulfide (H2S) gas is present in the Navajo1 Formation so appropriate safety procedures should be followed.

#### **PROCEDURE**

- 1. Fill a 500-Bbl frac tank with completion fluid (CF) consisting of filtered 4% KCl water, 21 gallons (1000 ppm) Baker Petrolite WAW 3003 non-ionic surfactant, 5.25 gallons (250 ppm) XC102W biocide, and 1.25 gallons (60 ppm) OSW5200 Oxygen Scavenger.
- 2. MIRU completion unit. Kill well with completion fluid. ND wellhead and NU BOP.
- 3. Release Arrowset-1 packer set at 9048' and circulate 230+ Bbls. POOH with tubing and packer assembly.
- 4. RIH with a CICR on tubing and set it at 9090". RU cementing company to squeeze perforations at 9104' 9166' using 100 sacks of premium cement containing additives per selected service company recommendation to allow 4 hours of pump time with the BHP of 200 °F. Hesitation squeeze to a maximum pressure of 3000 psi then pull up to leave at least 0.5 Bbls of cement on top of CICR. Pull up to 9080' and reverse circulate tubing clean.
- 5. POOH to 4000'. RU and swab fluid level in well down to 2500'. RD swab and finish POOH with tubing and stinger.
- 6. RU wireline with lubricator and perforate at 8942' 8948' (8938' 8944' on 4/12/2008 CBL depths) with 0.40+" diameter holes using 4" hollow expendable carriers loaded 6 SPF on 60° phasing with 25 gram charges. RD and release wireline service.
- 7. Fill hole with completion fluid. RIH with a wireline re-entry guide, one joint of 2-3/8" tubing, 2-3/8" x 1.870" XN profile landing nipple, 6' 2-3/8" tubing sub, 5.5" x 2-7/8" nickel coated Arrowset 1-X retrievable packer, one joint of 2-7/8" tubing, 2-7/8"x 2.25" seating nipple, and 2-7/8" tubing to surface. Space out, set packer at 8870', and land tubing in hanger with 20,000 lbs compression.
- 8. Pressure test 2-7/8" x 5-1/2" annulus to 2500 psi using rig pump. ND BOP and NU wellhead (include a swab valve).
- 9. RU to break down and ball off the isolated perforation interval using 1000 gallons of 4% KCl completion fluid mixed with 5 gallons of Halliburton GasPerm 1000 and 70 mixed ball sealers (half BioBalls and half buoyant balls). Hold safety meeting and pump treatment as follows, then RD and release Halliburton.

Page 3 Arapien Valley 24-1 Initial Completion Procedure 4 August 13, 2008

#### Fluids and Additives:

Breakdown Fluid: 1000 gallons completion fluid with an added 4 gallons of

GasPerm 1000.

Diverter:

70 Diverter Balls including 35 BioBalls MR (7/8", green) and 35

7/8" 0.90 S.G. balls.

Corrosion Inhibitor: 15 gallons of Baker Petrolite CRO195 mixed in 2 Bbls of CF

Displacement Fluid: 58 Barrels CF

Maximum Injection Pressure: 5000 psi

Injection Rate: 2-4 BPM

#### Pump Schedule:

A. Pressure test surface lines to 5500+ psi.

- B. Pressure up and trap ~2000 psi on casing.
- C. Pump 300 gallons (7.1 Bbls) of Breakdown Fluid (with no balls) at a rate of rate of 2-4 BPM and 3000 5000 psi.
- D. Pump 350 gallons (8.3 Bbls) of Breakdown Fluid containing 35 buoyant balls (one per 10 gallons) at a rate of a rate of rate of 2-4 BPM and 3000 5000 psi.
- E. Pump 350 gallons (8.3 Bbls) of Breakdown Fluid containing 35 BioBalls (one per 10 gallons) at a rate of a rate of rate of 2-4 BPM and 3000 5000 psi.
- F. Pump 2 Bbls of corrosion inhibitor fluid.
- G. Pump 2436 gallons (58 Bbls) of displacement fluid to displace Breakdown Fluid and balls at a rate of 2-4 BPM and 3000 5000 psi.
- H. Shut well in and record ISIP.
- 10. RU and swab well in.
- 11. Swab to initiate flow and turn flowing well to temporary production. RDMOSU.
- 12. After load fluid is recovered, adjust choke to establish a stabilized flow rate with a minimum FTP of 200 psi. Record production and flowing conditions on a daily basis.

Note: Duration of production period will be just long enough to establish and meter stabilized flow, collect production samples, and possibly conduct a pressure build-up test.

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### CONFIDENTIAL

Form 3160-5 (April 2004)

### **UNITED STATES**

FORM APPROVED

DEPARTMENT OF			Expires: March 31, 2007		
BUREAU OF LAND	Kichneid	BLM Field Office	rial No.		
SUNDRY NOTICES AND	HEI OING ON WELL	<u> </u>	an, Allottee or Tribe Name		
Do not use this form for propos abandoned well. Use Form 3160		- uii	iii, Anotice of Tribe Name		
SUBMIT IN TRIPLICATE- Other	instructions on reverse	Sido.	or CA/Agreement, Name and/or No.		
1. Type of Well Gas Well □ G	ther	8. Well N	fame and No.		
2. Name of Operator Wolverine Gas and Oil Company of	Utah, LLC	Wolv 9. API V	erine Federal Arapien Valley 24-1 Vell No.		
3a. Address 55 Campau NW, Grand Rapids, MI 49503	3b. Phone No. (include are 616-458-1150		43-039-30030  10. Field and Pool, or Exploratory Area		
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)	ption)	Wildo	Wildcat		
2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M		11. Count	y or Parish, State		
		Sanpe	ete County, Utah		
12. CHECK APPROPRIATE BOX(E	S) TO INDICATE NATURE	OF NOTICE, REPORT, C	R OTHER DATA		
TYPE OF SUBMISSION	TYPE (	OF ACTION			
Notice of Intent  Acidize  Alter Casing	Deepen	Production (Start/Resume)	Water Shut-Off		
	Fracture Treat	Reclamation	Well Integrity  ✓ Other Activity Update		
✓ Subsequent Report	New Construction Plug and Abandon	Recomplete Temporarily Abandon	Other Activity Optiate		
Final Abandonment Notice Convert to Injection	_ ` _	Water Disposal			
following completion of the involved operations. If the optesting has been completed. Final Abandonment Notices sidetermined that the site is ready for final inspection.)  Please see the attached compilation of daily report Perforations at 9104' - 9166' were squeezed with 1 days, and squeezed with 50 sacks of 50:50 poz central positions.	hall be filed only after all requirements as an update of testing and co	ts, including reclamation, have by  mpletion activities at the Ara erforations at 8942' - 8948' y	pen completed, and the operator has the period of the peri		
14. Thereby certify that the foregoing is true and correct					
Name (Printed/Typed) Ellis Peterson	Title Sr. P.	roduction Engineer			
Signature Shill Muson	Date	10/13/2008			
THIS SPACE F	OR FEDERAL OR STA	TE OFFICE USE			
Approved by Noted To Re	cordTitle		Date /0/27/08		
Conditions of approval, if any, are attached. Approval of this certify that the applicant holds legal or equitable title to those a			RECEIVE		
which would entitle the applicant to conduct operations thereo		3	UEOFIAT		

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency NUV Used 2008 States any false, fictitious or fraudulent statements or representations as to anymatter within its jurisdiction. (Instructions on page 2)

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Richfield BLM Field Office

Providence Field

Federal AV 24-1

Energy Exploration in Partnership with the Environment SW/NW Section 24, T20S, R1E API # 43-039-30030

Sanpete Co, Utah

8/16 thru 9/25

No activity

9/26/2008

Road rig to location, spot and set catwalk.

9/27/2008

Spot rig, continue hooking up pump and lines.

9/28/2008

Rig crew on days off

9/29/2008

Rig crew on days off Rig crew on days off

9/30/2008

10/1/2008

Rig crew on days off

10/2/2008

Finish hooking up pump and lines, unload BOP.

10/3/2008

Opened well, 1100 psi tbg, blew well down, RU pump lines, killed well with CF, ND wellhead and NU BOP. Released

Arrowset-1 pkr & POOH with tbg, leaving 1000' of kill string in hole. SWIFN.

10/4/2008

Opened well, 0 psi tbg, finished POOH with tbg and pkr, PU and RIH with tubing set CICR and set at 9093' Pressure tested tbg to 2000 psi, pressure tested casing to 1000 psi, unsting from CICR then sting back into CICR.

SWIFN, Plan to squeeze perf intervals 9104' - 9166' tomorrow.

10/5/2008

RU Halliburton pump equipment, held safety meeting pressure tested lines to 3100 psi, filled tubing and established an injection rate of 1.7 bpm @ 1120 psi, SD, unsting from CICR, pumped 22.6 bbls of 50:50 poz cement with latex followed by 29 bbls of fresh water, sting into CICR, pumped 15.5 bbls of displacement fluid at 1.3 bpm, SD, waited for pressure to stabilize at 206 psi, pumped .3 bbls - waited for pressure to stabilize at 1182 psi, pumped .2 bbls - waited for pressure to stabilize at 1296 psi, pumped .2 bbls - waited for pressure to stabilize at 1674 psi, pumped .1 bbls pressure was slowly dropping at 1960 psi. Released pressure, unsting from CICR and reverse circulated 80 bbls of CF. Note: Had approximately 4 bbls of cement returns. Cement data - (Corrosacem system 452967) 100 sx 14.5# Latex Cement

Density:

14.5 lb/gal

Yield:

1.21 ft3/sk

Water:

2.85 gal/sk

Thickening Time: 4hrs

Free Water:

none

14 cc/30-min (API)

10/6/2008

Opened well, finished POOH with tbg and stinger, RIH with TCP assembly, loaded tubing with 15 gallons of CRO 195 followed by 22 bbls of CF (filled tbg to 4900'), RU wireline unit and correlated to Schlumberger Platform Express log dated 1/17/08, POOH with GR-CCL, set pkr in 20,000# compression, RIH with GR-CCL to confirm depths, RD and released wireline unit ND BOP, NU wellhead, dropped bar and perforated well at 8942'- 8948' with 3 SPF. SWIFN Plan to flow well back for cleanup and flow rates.

10/7/2008

Opened well, 600 psi tbg psi, well flowed back 5 bbls oil, 12 bbls water, gas flow rate dropped off to 275 MCFPD, shut well in for 2 hrs, tubing pressure built to 500 psi. Opened well to frac tank and flowed back 2 bbls of oil in 45 minutes, RU swab equipment, made 4 swab runs recovering 10 bbls oil and 1 bbl of water, initially tagged fluid at 6500 ft, pulled from 8000' on last run. Opened well to T-pak and let flow overnight, flow rates of 250 MCFPD, 27 bopd.

10/8/2008

Well is flowing a rate of 27 bbls oil, 0 bbls water, 292 MCF in 24 hrs. 48/64 choke, 110 psi tubing, 70 psi separator pressure.

10/9/2008

Well has shown signs of liquid loading throughout the day. Plan to install plunger lift tomorrow. Well still flowing a rate of 27 bopd, 0 bwpd and 292 MCF of gas per day. Shut well in at 8:00 AM to install plunger lift system. Opened well at 11:00 am with 820 psi tubing pressure, well flowed back 8.3 bbls oil and 0 bbls water. Started plunger lift system at 12:00 pm. (traveling plunger - no shut in time).

Plan to let well flow overnight with plunger system, then POOH with tbg and RIH with wireline set CICR.

10/10/2008

Well produced a rate of 40 bopd, 0 bwpd and 354 MCF per day with steady rates overnight on a 48/64 choke, 110 psi tubing, 70 psi separator pressure. RU pump lines, killed well with 50 bbls CF, released pkr, POOH with TCP assembly, RU wireline unit and set 5 1/2" (20#) CICR at 8936', RD and released wireline unit.

10/11/2008

Opened well. Finish RIH w/ stinger for CICR. EOT @ 8032' KB. Halliburton got delayed due to weather.

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SWIFN.

Plan to pump squeeze in AM

Richfield BLM Field Office

10/12/2008

Opened well. Finish RIH w/stinger and tag CICR @ 8936'KB . RU Halliburton

to squeeze perfs at 8942'- 8948'. Held safety meeting and tested surface lines to 2500psi. Sting into CICR.

Establish injection rate of 1.8 bpm @ 1900 psi with 8 total bbls pumped. Sting out of CICR, mixed and pumped 10.6 Bbls

of 50:50 poz cement with latex, displaced cement with 39.1 Bbls of fresh water, and sting back into retainer.

Pumped 7.5 Bbls of displacement (5.5 Bbls out of tubing). Hesitiation squeezed to 2000 psi.

Sting out, pulled up 2', and reverse circulated the well clean. RD and released Halliburton.

Pull tbg up to 4400'KB and rig up to swab . Swab well down to 2500' .SWIFN.

Cement data - (Corrosacem system 452967) 100 sx 14.5# Latex Cement

Density:

14.5 lb/gal

Yieid:

1.19 ft3/sk

Water:

3.6 gal/sk

Plan to finish POOH w/ stinger and tbg, and then perforate at 8920' - 8922' and 8904' - 8914'.

Supervisor:

Tong E. Cook

#### **H2S Contingency Plan**

For Workover/Completion

#### Wolverine

### Wolverine Federal Arapien Valley 24-1

Section 24
Township 20S - Range 01E
Sanpete Co, Utah

GL Elevation 5554 ft

Wolverine One Riverfront Plaza 55 Campau, NW Grand Rapids, Michigan 49503-2616 RECEIVED
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#### Introduction

It is the policy of WOLVERINE GAS AND OIL COMPANY OF UTAH, LLC (Wolverine) to provide a safe and healthful work environment for all of its employees as well as contractors that may work on Wolverine leases. Wolverine makes a continued effort to comply with laws and regulations related to worker safety and health, and to manage all operations in a manner to reduce risk.

The following is a H2S contingency plan for the <u>Wolverine Federal Arapien Valley 24-1</u> (AV 24-1) well. It is designed for personnel working on this project to follow in case of an accidental release of hydrogen sulfide during completion or workover operations. For the plan to be effective, all personnel must review and be familiar with onsite duties as well as the safety equipment involved.

The purpose of this plan is to act as a guideline for personnel working on the wellsite in the event of a sudden release of hydrogen sulfide. All personnel working on the wellsite as well as service personnel that may travel to location on an unscheduled basis must be familiar with this program. The cooperation and participation of all personnel involved with the completion/workover operation is necessary for this plan to be effective.

#### Directions to location:

From the town of Mayfield in Sanpete County, go approximately 4 miles south on county road, then turn southwesterly for 2 miles on lease road to location.

#### I. Duties & Responsibilities

In order to assure proper execution of the contingency plan, it is essential that one person be responsible for and in complete charge of implementing the procedures outlined in this plan. The order of responsibility will be as follows:

- 1. Wolverine supervisor on location if unable to perform his/ her duties;
- 2. Alternate Wolverine representative if unable to perform his/ her duties;
- 3. Rig Supervisor/Toolpusher if unable to perform his/her duties;
- 4. Safety consultant representative if available.

#### A. All Personnel

- 1. Always be alert for possible H2S alarms both audible and visual.
- 2. Be familiar with location of Safe Briefing Areas (SBA) and protective breathing equipment.
- 3. Develop "wind awareness". Be aware of prevailing wind direction as well as nearby uphill areas should there be no wind.
- 4. Familiarize yourself with nearest escape routes for safe evacuation.
- 5. Should H2S alarm sound, DON'T PANIC remain calm and follow instructions of person in charge.
- 6. If the H2S alarms sound:
  - a. Essential personnel shall don the appropriate respiratory protective equipment and follow safety procedures. They will continue to wear respiratory protective equipment until the area is deemed safe (H2S concentration less than 10 PPM).
  - b. Non-essential personnel shall evacuate to the appropriate safe briefing area using escape-breathing systems. They are to wait there for further instructions from the Wolverine foreman or the designated person in charge.
  - c. Initiate rescue protocol if necessary and following training procedures.

#### **B.** Wellsite Supervisor

- 1. The Wellsite Supervisor will confirm that all personnel on location at any time are trained in H2S safety and aware of above list of duties.
- 2. The Wellsite Supervisor will ensure that all personnel observe all safety and emergency procedures.
- 3. The Wellsite Supervisor will make an effort to keep the number of personnel on location to a minimum and to ensure that only essential personnel are on location during critical operations.
- 4. Should an extreme danger condition exist, the Wellsite Supervisor will:
  - a. Assess the situation and advise all personnel by appropriate means of communication.
  - b. Be responsible for determining that the extreme danger condition is warranted and have the red flag posted at location entrance.
  - c. Go to safe briefing area. Give clear instructions relative to hazard on location and actions for personnel to follow.
  - d. Notify company and regulatory groups of current situation as required per company policy and regulatory protocol. Follow appropriate procedures for emergency services notification.
  - e. Proceed to well and supervise operations with rig supervisor. Take action to control and reduce the H2S hazard.
  - f. Ensure that essential personnel are properly protected with supplied air breathing equipment and that non-essential personnel are in a "poison gas free" area.
  - g. Authorize evacuation of any persons/residents in area surrounding the well location.
  - h. Commence any ignition procedures if ignition criteria are met.

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#### C. Rig Supervisor/Toolpusher

- 1. If the Wellsite Supervisor is unable to perform his/her duties and an alternate Wolverine representative is also unable or unavailable to perform his/her duties, the rig supervisor will assume command of wellsite operations and all responsibilities listed above for Wellsite Supervisor.
- 2. The Rig Supervisor will ensure that all rig personnel are properly trained to work in H2S environment, fully understand the purpose of H2S alarms, and know actions to take when alarms activate. He/She will ensure that all crew personnel understand the buddy system, safe briefing areas, and individual duties as well as emergency evacuation procedures.
- 3. Should any extreme danger operational condition arise, the Rig Supervisor shall assist the Wellsite Supervisor by:
  - a. Proceeding to the rig floor and assist in supervising rig operations.
  - b. Ensuring that only essential working personnel remain in hazardous areas.
  - c. Ensuring that all crewmembers that remain in hazardous area, wear respiratory protective equipment until notified that area is "clear" of any toxic gases.
  - d. Assigning rig crewmember or other service representative to block entrance to location. No unauthorized personnel are to be allowed entry to location.
  - e. Helping to determine hazardous "danger zones" on location using portable detection equipment, and positioning electric fans to move gas in any high concentration areas.

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#### D. Safety Consultant (if present)

- 1. During normal operations (no H2S present), the safety consultant will be responsible for the following:
  - a. Ensuring that all wellsite safety equipment is in place and operational.
  - b. Ensuring that all wellsite personnel are familiar with location safety layout and operation of all safety equipment.
  - c. Assisting the Wellsite Supervisor in performing weekly H2S drills for location personnel.
- 2. When an operational condition is classified as extreme danger, the safety consultant will be responsible for the following:
  - a. Accounting for all wellsite personnel.
  - b. Assessing any injuries and directing first aid measures.
  - c. Ensuring that all safety and monitoring equipment are functioning properly and available.
  - d. Monitoring the safety of wellsite personnel.
  - e. Maintaining close communication with the Wellsite Supervisor.
  - f. Being prepared to assist Wellsite Supervisor with support for rig crew or other personnel using breathing equipment.
  - g. Being prepared to assist the Wellsite Supervisor with emergency procedures including possible well ignition.
  - h. Being prepared to assist with evacuation of any area residents or other personnel in the immediate area.

#### E. Operations Foreman

- 1. The Wolverine Operations Foreman will be responsible for notifying and maintaining contact with the company Production Manager and/or other company supervisory personnel as required.
- 2. Maintaining communication with the Wellsite Supervisor and providing any other assistance that might be required.
- 3. Travelling to wellsite if appropriate
- 4. Assisting Wellsite Supervisor with all other notifications including both company and regulatory.

#### II. Well Location Layout

#### A. Location

- 1. All respiratory protective equipment and H2S detection equipment will be in place and functioning prior to any well intervention activities if the well is or will be completed in a formation that potentially contains H2S. All formations completed in the AV 24-1 should be considered to contain H2S until adequately tested to determine otherwise. The Navajo2 Formation located at a depth of 12,121 feet is known to contain H2S.
- 2. The workover/completion rig will be situated on location so the prevailing winds do not blow across the rig toward the circulation pump and tanks or toward the BOP controls, or as near this configuration as possible.
- 3. The entrance to the location is designed so that it can be barricaded if a hydrogen sulfide emergency condition arises. An auxiliary exit route will be available so that in case of an emergency, a shift in wind direction would not prevent escape from the location.
- 4. A minimum of two safe briefing areas (SBA) shall be designated for assembly of personnel during emergency conditions. These SBA will be located at least 150 feet from the wellbore and such that at least one area will be upwind of the well at all times. Upon recognition of an emergency situation, all personnel will be trained to assemble at the designated briefing area for instructions.
- 5. Smoking areas will be established and "No Smoking" signs will be posted around the location.
- 6. Reliable 24 hour telephone communications will be available on location.
- 8. All equipment that might come in to contact with hydrogen sulfide (tubing, packers, down-hole tools, casing, wellhead, blowout preventers, and surface production equipment) will meet metallurgy requirements for H2S service.
- 9. A continuous electronic H2S detection system that automatically activates visible and audible alarms if hydrogen sulfide is detected will be in place at the well servicing rig. The visible light will activate if 10 ppm H2S is present. The audible siren will activate if 15 ppm H2S or higher concentration is present. There will be at least 3 H2S sensors in place on the rig. They will be located to detect the presence of hydrogen sulfide in areas where it is most likely to come to surface. The sensor head locations will be: 1) at the rig operator platform 2) at BOP stack, wellhead, or in well cellar, 3) at circulating pump. Additional sensors will be positioned at the discretion of the wellsite supervisor. At least 1 light and 1 siren will be placed near the rig to indicate the

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presence of hydrogen sulfide. The light and siren will be strategically placed to be visible to all personnel on the well site. Additional alarm lights and sirens may be added to ensure that all personnel on the well site are able to notice the alarms at any time.

- 10. The H2S detection equipment will be calibrated as recommended by the manufacturer. Calibration records will be maintained on location.
- 11. A least 2 such wind direction indicators (i.e., windsocks, wind vanes, pennants with tail streamers, etc.) will be located at separate elevations to ensure visibility to all principal working areas at all times. In addition, a wind direction indicator will be present at each of the 2 briefing areas if the other wind direction indicators are not visible from the safe briefing areas.
- 12. All respiratory protective equipment will be NIOSH/MSHA approved positive pressure type and maintained according to manufacturer's guidelines. All breathing air used for this equipment will be CGA type Grade D breathing air.
- 13. Both 30-minute self-contained breathing apparatuses (SCBA) and workline units with escape cylinders will be available on location. There will be sufficient numbers of this supplied air breathing equipment on location to ensure that all personnel on location have a piece of equipment available to each of them. All respiratory protective equipment will use nose cups to prevent fogging in temperatures below 32 °F. Spectacle kits will be available for personnel that require corrective lenses when working under mask.
- 14. Electric explosion-proof ventilating fans (bug blowers) will be available to provide air movement in enclosed areas where gas might accumulate.
- 15. H2S drills will be conducted at least weekly to ensure that all well site personnel are competent in emergency donning procedures. These drills will be recorded in the rig book as well as in the safety trailer logbook.
- 16. Electronic voice-mikes or other means of communicating will be available for essential personnel to use when working under mask.
- 17. Additional breathing equipment will be provided for non-routine operations that require additional service personnel on the well location to ensure that all personnel on the well location have a dedicated supplied air respirator.
- 18. Location access will be monitored and controlled during "non-routine" operations such as perforating, pressurized pumping, and well testing. The number of personnel on location will be restricted to "essential" personnel only.

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#### **III. Safety Procedures**

#### A. Training

All personnel who come onto the location must be properly trained in hydrogen sulfide, nitrogen, and oxygen deficient atmospheres safety. The personnel shall carry documentation with them indicating that the training has occurred within the previous 12 months. All training will comply with federal and state regulatory guidelines.

Training topics shall include at a minimum:

- Hazards and characteristics of hydrogen sulfide, nitrogen, and oxygen deficient atmospheres and symptoms of exposure to these gases.
- 2. Proper use, care and limitations of respiratory protective equipment with handson practice.
- 3. Use of both fixed and portable toxic gas detection equipment.
- 4. Work practices to reduce chances for toxic gas exposure and procedures for confined space.
- 5. First aid for toxic gas exposure and resuscitation equipment.
- 6. The buddy system.
- 7. Emergency evacuation procedures.
- 8. A review of the contingency plan for the well.

#### **B. Operating Conditions**

A three color-flag warning system will be used to notify personnel approaching the drill site as to operating conditions on the wellsite. This system is in compliance with BLM Onshore Order 6 and follows industry standards.

Green Flag - Potential Danger

Yellow Flag - Moderate Danger

Red Flag- Extreme Danger - Do not approach if red flag is flying.

#### C. Evacuation Plan

There are no permanent residents within a 1-mile radius of the drill site. The prevailing wind is from the southwest. Wolverine will conduct any evacuation in coordination with their Operations Center and with the direction of their Wellsite Supervisor.

All regulatory agencies will be notified as soon as possible.

#### **D. Emergency Rescue Procedures**

Well site personnel should not attempt emergency rescues unless they have been properly trained. A trained person who discovers another person overcome by hydrogen sulfide **should not attempt to rescue without donning the proper breathing equipment.** When making an emergency rescue always use the following procedures:

- 1. Don rescue breathing equipment before attempting to rescue someone.
- 2. Remove the victim from the contaminated area to an area free of toxic gas by traveling upwind or cross wind. Be certain that you are in a safe area before removing your breathing equipment.
- 3. If the victim is not breathing, initiate mouth-to-mouth resuscitation immediately. Follow CPR guidelines and replace mouth-to-mouth with a bag mask resuscitator if available.
- 4. Treat the victim for shock, keeping the victim warm and calm. Never leave the victim alone.
- 5. Any personnel who experience hydrogen sulfide exposure must be taken to a hospital for examination and their supervisor notified of the incident.
- 6. Their supervisor shall follow the company Emergency Preparedness plan.

#### IV. H2S Safety Equipment on Well Location

Item	Amount	Description
1.	One (1)	Safety trailer with a cascade system of 4-300 cu. ft. bottles of compressed breathing air complete with high-pressure regulators.
2.	400 ft.	Low-pressure airline equipped with locking fittings. This airline will be rigged up with manifold to supply breathing air to the rig floor, derrick, and pumping areas. High-pressure refill hose(s) will be attached to cascade system for cylinder refill.
3.	Five (5)	30-minute rescue pack self-contained breathing apparatuses (SCBA).
4.	Six (6)	5-minute escape packs with compressed air cylinders.
5.	Five (5)	5-minute airline work units with emergency escape cylinders.
6.	One (1)	4-channel continuous electronic H2S monitor with audible and visual alarms. The set points for these alarms are 10 ppm for the low alarm and 15 ppm for the high alarm.
7.	Two (2)	Portable hand operated pump type detection units with tubes for hydrogen sulfide and sulfur dioxide.
8.	One (1)	Oxygen resuscitator with spare oxygen cylinder.
9.	One (1)	Trauma first aid kit
10.	Four (4)	Windsocks
11.	At least one (1)	Well condition sign with 3 flag system.
12.	Two (2)	Safe Briefing Area (SBA) signs
13.	Two (2)	Electric explosion proof fans
14.	Two (2)	30 # fire extinguishers
15.	Six (6)	Battery powered voice mikes for communication when wearing air masks.
16.	One (1)	Battery powered combustible gas meter

#### V. Well Ignition Procedures

If it should become apparent that an uncontrolled release of hydrogen sulfide to the atmosphere might endanger the health and safety of the public or well site personnel, the Wolverine Wellsite Supervisor will make a decision to ignite the well. The following procedure should be followed before attempting to ignite the well.

A. Ignition equipment - The following equipment will be available for on-site for use by the ignition team.

- 1. One 12 gauge flare gun with flare shells
- 2. Two 500 ft. Fire resistant retrieval ropes
- 3. One portable combustible gas meter
- 4. Self contained breathing apparatus (SCBA) for each member of the ignition team.
- 5. One backup vehicle with communication equipment

#### B. Ignition Procedures

- 1. The Wellsite Supervisor will ensure that well site personnel are evacuated to a safe area upwind of the well bore prior to any ignition action.
- 2. The Wellsite Supervisor and a designated partner "buddy" backed up by well site safety personnel (if available) will comprise the ignition team. All team members will be wearing 30 minute SCBAs.
- The backup crew will be positioned near a radio-equipped vehicle at a safe distance from the sour gas release. They will standby to rescue the actual team igniting the well.
- 4. The partner of the ignition team will carry a combustible gas/ hydrogen sulfide meter to continuously monitor the area in which they are working and define the perimeter of the gas cloud.
- 5. The Wellsite Supervisor will carry the flare gun and shells.
- 6. The ignition team will determine the hazardous area and establish safe working perimeters. Once this is identified the team will proceed upwind of the leak and fire into the area with flare gun. If trouble is encountered in trying to light the leak, retry to ignite by firing the flare shells at 45 and 90 angles to the gas source, but DO NOT approach closer to the leak.
- 7. After ignition, monitor for sulfur dioxide and work with the support group to restrict access to the contaminated area.

#### VI. Residents - Public in R.O.E.

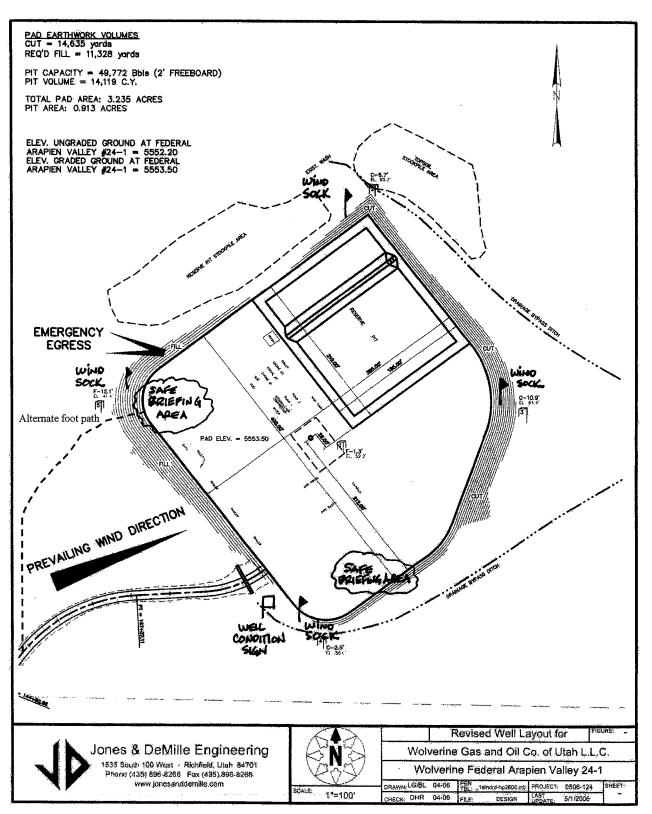
There are no permanent residents within a 1 mile radius of the well site. Wolverine may have personnel working in the area and their contact numbers will be included. The surrounding area is federally and privately owned and maintained. This land may be used for recreational purposes including hunting and recreational vehicles any time during the drilling or completion of this well.

#### VII. Emergency Phone Directory

#### A. Wolverine Gas and Oil Company of Utah, LLC

Tony Cook	(Production Forman – Wolverine)	office cell truck	435-896-2956 435-201-1622 435-201-2871
Greg Todd	(Area Manager – Nabors Well Services)	office	435-722-3451
Fernando Orte	ega (Foreman, On Site Rep – Wolverine)	cell truck	435-633-3175 435-724-8220
Ed Higuera	(Operations Manager – Wolverine)	office cell	616-458-1150 616-690-0023
B. Emergen	cy Services Phone List		

1.	Sevier Valley Medical Center - Richfield, UT	435 - 896-8271
2.	Gunnison Valley Hospital, Sanpete County	435 - 528-7246
3.	Ambulance Services – Sevier County, UT	911 or 435-896-6471
4.	Ambulance Services – Sanpete County, UT	911 or 435-835-2191
5.	Sheriff Department - Sevier County, UT	911 or 435-896-6471
6.	Sheriff Department - Sanpete County, UT	911 or 435-835-2191
7.	Highway Patrol - Utah	800 - 222-0038
8.	Fire Department - Sevier County	911 or 435-896-6471
9.	Al McKee, BLM - Salt Lake City, UT (cell phone)	801- 828-7498
10.	. Utah Division Oil, Gas & Mining - Salt Lake City, UT	801- 538-5277
11.	. Medical Helicopter - Air Med- Salt Lake City, UT	800 - 453-0120
12.	. Utah OSHA (Mark LeBlanc)	801- 530-6862
13.	. Sevier Valley Medical Center - Richfield, UT	435-896-8271



#### PROPERTY OF GAS

If gas should be produced, it could be a mixture of Carbon Dioxide, Hydrogen Sulfide, and Methane.

#### **TOXICITY OF VARIOUS GASES**

Common Name	Chemical <u>Formula</u>	Specific Gravity of Air=1	1 Threshold <u>Limit</u>	2 Hazardous <u>Limit</u>	3 Lethal <u>Concern</u>
Hydrogen Cyanide	HCN	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H <sub>2</sub> S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	$\mathbf{SO}_2$	2.21	2 ppm		1,000 ppm
Chloride	$\mathbf{CL}_1$	2.45	1 ppm	4 ppm/hr	1,000 ppm
Carbon Monoxide	CO	0.97	50 ppm	400 ppm/hr	1,000 ppm
Carbon Dioxide	$\mathbf{CO}_2$	1.52	5,000 ppm	5%	10%
Methane	<b>CH</b> 4	0.55	90,000 ppm	Combustible Above 5% in Air	

<sup>1. &</sup>lt;u>Threshold</u> = Concentration at which it is believed that all workers may repeatedly be exposed, day after day, without adverse side effects.

<sup>2. &</sup>lt;u>Hazardous</u> = Concentration that may cause death.

<sup>3. &</sup>lt;u>Lethal</u> = Concentration that will cause death with short-term exposure.

#### **HYDROGEN SULFIDE**

#### **GENERAL PROPERTIES**

Hydrogen Sulfide itself is a colorless and transparent gas and is flammable. It is heavier than air and, hence, may accumulate in low places.

Although the slightest presence of H2S in the air is normally detectable by its characteristic "Rotten Egg"odor, it is dangerous to rely on the odor as a means of detecting excessive concentrations because the sense of smell is rapidly lost allowing lethal concentrations to be accumulated without warning. The following table indicates the poisonous nature of Hydrogen Sulfide, which is more toxic than Carbon Monoxide.

COMMON NAMES: Sour Gas, Rotten Egg Gas, Sulphurated Hydrogen, Hydrogen sulfide, Stink Damp, H2S, Acid Gas, Sweet Gas\*

#### **PHYSICAL-CHEMICAL PROPERTIES**

Chemical FormulaH2S
1. Specific Gravity (Air = 1.000)1.193 (@ 77°F)
2. ColorNone
3. OdorCompared to Rotten Eggs
4. Odor Threshold0.13 part of 1 ppm
5. Corrosivity
6. Solubility in Water4.0 to 1 in H2O @ 32°F
2.6 to 1 in H2O @ 68°F
7. Effects on HumansOlfactory nerves, respiratory nerves, irritates
sensitive membranes in eyes, nose, and throat.
8. Vapor Pressure19.6 atmospheres at 25°C
9. Explosive Limits4.3% to 46% by volume in air.
* H2S is a sweet tasting Gas, but often the word "tasting" is left out.
10. Ignition Temperature18°F (Burns with a pale blue flame)
11. Molecular Weight34.08
12. Conversion Factors
mm HG). 1 ppm = $0.00139$ mg/1 of air.
13. pH3 in water

#### **INDUSTRIAL OCCURRENCES**

Hydrogen Sulfide exposures occur in certain processes in the petroleum industry, chemical plants, chemical laboratories, sulfur and gypsum mines, viscose rayon and rubber industries, tanneries, and in the manufacture of some chemicals, dyes, and pigments. It may be encountered in excavations in the swampy or filled ground. It is produced when sulfur-containing organic matter decomposes, and it can therefore be found in sewage or organic-waste treatment plants. A common sewer gas, it may find its way into utility manhole, particularly dangerous when encountered in tanks, vessels, and other enclosed spaces.

#### **TOXIC PROPERTIES**

Hydrogen Sulfide is an extremely toxic and irritating gas. Free Hydrogen Sulfide in the blood reduces its oxygen carrying capacity, thereby depressing the nervous system. Sufficiently high concentrations can cause blockage of the phrenic nerve, resulting in immediate collapse and death due to respiratory failure and asphyxiation.

Because Hydrogen Sulfide is oxidized quite rapidly to sulfates in the body, no permanent after effects occur in cases of recovery from acute exposures unless oxygen deprivation of the nervous system is prolonged. However, in cases of acute exposures, there is always the possibility that pulmonary edema may develop. It is also reported that symptoms such as nervousness, dry nonproductive coughing, nausea, headache, and insomnia, lasting up to about 3 days have occurred after acute exposures to Hydrogen Sulfide.

At low concentrations the predominant effect of Hydrogen Sulfide is on the eyes and respiratory tract. Eye irritation, conjunctivitis, pain, lacrimation, keratitis, and photophobia may persist for several days. Respiratory tract symptoms include coughing, painful breathing, and pain in the nose and throat.

There is no evidence that repeated exposures to Hydrogen Sulfide results in accumulative or systemic poisoning. Effects such as eye irritation, respiratory tract irritation, slow pulse rate, lassitude, digestive disturbances, and cold sweats may occur, but these symptoms disappear in a relatively short time after removal from the exposure. Repeated exposure to Hydrogen Sulfide does not appear to cause any increase or decrease in susceptibility to this gas.

The paralytic effect of Hydrogen Sulfide on the olfactory nerve is probably the most significant property of the gas. This paralysis may create a false sense of security. A worker can be overcome after the typical rotten-egg odor has disappeared. Rather than the characteristic Hydrogen Sulfide odor, some victims of sudden acute overexposure have reported a brief sickeningly sweet odor just prior to unconsciousness.

Subjective olfactory responses to various concentrations of Hydrogen Sulfide may be summarized as follows:

0.02 ppm	No odor
0.13 ppm	Minimal perceptible odor
0.77 ppm	Faint, but readily perceptible odor
4.60 ppm	Easily detectable, moderate odor
27.0 ppm	Strong, unpleasant odor, but not intolerable

Physiological responses to various concentrations of Hydrogen Sulfide have been reported as follows:

10 ppm	Beginning eye irritation	
50-100 ppm	Slight conjunctivitis and respiratory tract irritation after 1 hour exposure	
100 ppm	Coughing, eye irritation, loss of sense of smell after 2-15 minutes. Altered respiration, pain in the eyes, and drowsiness after 15-30 minutes, followed by throat irritation after 1 hour. Several hours exposure results in gradual increase in severity of these symptoms and death may occur within the next 48 hours	
200-300 ppm	Marked conjunctivitis and respiratory tract irritation after 1 hour exposure	
500-700 ppm	Loss of consciousness and possibly death in 30 minutes	
700 ppm	Rapid unconsciousness, cessation of respiration, and death	
1000-2000 ppm	Unconsciousness at once, with early cessation of respiration and death in a few minutes. Death may occur even if individual is removed to fresh air at once.	

#### **ACCEPTABLE CONCENTRATIONS**

#### ACCEPTABLE EIGHT-HOUR TIME-WEIGHTED AVERAGE

To avoid discomfort, the Time-Weighted average concentration of Hydrogen Sulfide shall not exceed 10 ppm.

#### ACCEPTABLE CEILING CONCENTRATION

The acceptable concentration for protection of health for an eight-hour, f ive-day week shall be 20 ppm. Fluctuations are to occur below this concentration.

### ACCEPTABLE MAXIMUM FOR PEAKS ABOVE ACCEPTABLE BASE LINE FOR CONTINUOUS EXPOSURE

A single-peak concentration not exceeding 50 ppm for a maximum of 10 minutes is allowable provided that the daily time-weighted average is not exceeded.

H<sub>2</sub>S EQUIVALENTS

Parts per Million	Percents	Grains per 100 cu. Ft.
1	0.0001	0.055
10	0.001	0.55
18	0.0018	1.0
100	0.01	5.5
1000	0.1	55.5
10000	1.0	555.5

Grains per 100 cu. Ft. = % by volume Mole 636.4 1% by volume = 10,000 ppm

#### **SULFUR DIOXIDE**

Sulfur Dioxide (SO2) is a colorless, transparent gas and is non-flammable.

Sulfur Dioxide is produced during the burning of H2S. Although SO2 is heavier than air, it will be picked up by a breeze and carried downwind at elevated temperatures. While Sulfur Dioxide is extremely irritating to the eyes and mucous membranes of the upper respiratory tract, it has exceptionally good warning powers in this respect.

<b>CONCENTRATIONS</b>		<b>EFFECTS</b>
%SO <sub>2</sub>	ppm	
0.0002	2	Safe for eight (8) hour exposure
0.0005	5	Pungent odor - normally a person can detect SO2 in this range.
0.0012	12	Throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes.
0.015	150	So irritating that it can only be endured for a few minutes.
0.05	500	Causes a sense of suffocation, even with the first breath.

#### PHYSICAL PROPERTIES AND CHARACTERISTICS

Chemical Formula	.ŠO2
1. Specific Gravity	.2.212
2. Color	.None
3. Flammable	.No
4. Odor	. Characteristic, pungent, gives ample warning of its presence.

V2r2 2008.11.03

5. Corrosivity	Drynot corrosive to ordinary metals.				
en en en en en en en en en en en en en e	Wat corrective to most common metals				
6. Allowable Concentrations	2 ppm (ACGIH and OSHA)				
7. Effects on Humans	Irritates eyes, throat and upper				
	respiratory system				

### **TOXIC PROPERTIES**

Sulfur Dioxide is an irritating gas in its vapor form and the odor is so intensely irritating that concentrations of 3 to 5 parts per million in the air are readily detectable by the normal person. In higher concentrations, the severely irritating effect of the gas makes it unlikely that any person would be able to remain in a Sulfur Dioxide contaminated atmosphere unless they were unconscious or trapped.

Sulfur Dioxide gas is intensely irritating to the eyes, throat, and upper respiratory system. Inhalation of this gas in concentrations of 8 to 12 parts per million in air causes throat irritation, coughing, constriction of the chest, tearing and smarting of the eyes. 150 parts per million is so extremely irritating that it can be endured only for a few minutes. 500 parts per million is so acutely irritating to the upper respiratory tract that it causes a sense of suffocation, even with the first breath.

Out of numerous reported exposures to Sulfur Dioxide, there are few references that would indicate pneumonia as an after effect.

### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES

	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907						
SUNDRY	S	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:					
Do not use this form for proposals to drill i drill horizontal l	new wells, significantly deepen existing wells below cun aterals. Use APPLICATION FOR PERMIT TO DRILL fo	rent bottom-hole depth, orm for such proposals	reenter plugged wells, or to	7. UNIT or CA AGREEMENT NAME: Wolverine Federal Unit			
1. TYPE OF WELL OIL WELL				8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1			
2. NAME OF OPERATOR:	omneny of litch 11 C			9. API NUMBER:			
Wolverine Gas and Oil Co	ompany of Otan, LLC	l F	PHONE NUMBER;	4303930030 10. FIELD AND POOL, OR WILDCAT:			
	$_{ m Y}$ Grand Rapids $_{ m STATE}$ MI $_{ m ZIP}$		(616) 458-1150	Wildcat			
4. LOCATION OF WELL  FOOTAGES AT SURFACE: 2331'	FNL, 549' FWL			соинту: Sanpete			
QTR/QTR, SECTION, TOWNSHIP, RAN	NGE, MERIDIAN: SWNW 24 20S 1	E S		STATE: UTAH			
11. CHECK APP	ROPRIATE BOXES TO INDICAT	E NATURE C	F NOTICE, REPO	RT, OR OTHER DATA			
TYPE OF SUBMISSION		TYI	PE OF ACTION				
NOTICE OF INTENT	ACIDIZE	DEEPEN		REPERFORATE CURRENT FORMATION			
(Submit in Duplicate)	ALTER CASING	FRACTURE T	REAT	SIDETRACK TO REPAIR WELL			
Approximate date work will start:	CASING REPAIR	NEW CONSTR	RUCTION	TEMPORARILY ABANDON			
	CHANGE TO PREVIOUS PLANS	OPERATOR C	HANGE	TUBING REPAIR			
	CHANGE TUBING	PLUG AND AE	BANDON	VENT OR FLARE			
✓ SUBSEQUENT REPORT (Submit Original Form Only)	CHANGE WELL NAME	PLUG BACK		WATER DISPOSAL			
Date of work completion:	CHANGE WELL STATUS	PRODUCTION	(START/RESUME)	WATER SHUT-OFF			
	COMMINGLE PRODUCING FORMATIONS	=	N OF WELL SITE	✓ OTHER: Activity Update			
	CONVERT WELL TYPE		E - DIFFERENT FORMATION				
12. DESCRIBE PROPOSED OR C	OMPLETED OPERATIONS. Clearly show all p	ertinent details inclu	iding dates, depths, volume	es, etc.			
CONTINUED CONFIDEN	ITIAL STATUS REQUESTED						
CONTINUED CONFIDENTIAL STATUS REQUESTED  The drilling rig was released on 2/28/2008 and moved off location. Completion and testing activities since 10/12/08 include the following. Perforated Navajo1 at 8920'- 8922' and 8904'- 8914' with 3 SPF using 4" hollow carriers. Set RBP at 8930' and packer at 8800'. Swabbed tubing dry with no fluid inflow from perforations at 8920'- 8922' and 8904'- 8914'. Moved RBP to 8898' and pulled packer. Perforated Navajo1 at 8881'- 8883', 8865'- 8871', and 8854'- 8860' with 3 SPF using 4" hollow carriers. Ran packer and set it at 8746'. Swabbed tubing dry with no fluid inflow from perforations at 8881'- 8883', 8865'- 8871', and 8854'- 8860'. Moved packer to 8930'. Broke down Navajo1 perforations at 8854'- 8922' using a total of 56 Bbls of 4% KCI water and additives and 150 ball sealers. Swabbed perforations at 8854'- 8922' with no significant fluid recovery. Set a CICR at 8840' and squeezed the Navajo1 perforations at 8854'- 8922' with 50 sacks (11.3 Bbls) of 50:50 poz cement with latex. Drilled out cement and cast iron plugs from 8838' to Navajo2 perforations at 12,290' - 12,316'. Ran packer on tubing and set it at 12,210' with BH pressure gauges in place. Performed a pump-in test with 30 Bbls of 4% KCI water. Tubing is currently being pulled to recover the pressure gauges after which new tubing and packer will be run and the Navajo2 will be production tested until being fracture stimulated as planned for December 22, 2008.							
NAME (PLEASE PRINT) Ellis M. P	eterson	TITLE	Senior Production	n Engineer			
SIGNATURE Ellis	Muss	DATE	12/1/2008				

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DIV. OF OIL, GAS & MINING

### CONFIDENTIAL

FORM 9

### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

D	5. LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907					
SUNDRY	S ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: NA				
Do not use this form for proposals to drill new drill horizontal late	v wells, significantly deepen existing wells below cur rals. Use APPLICATION FOR PERMIT TO DRILL f	rent bottom-hole depth, reenter plugged wells, or to orm for such proposals.	7. UNIT OF CA AGREEMENT NAME: Wolverine Federal Unit			
1. TYPE OF WELL OIL WELL			8. WELL NAME and NUMBER: Wolv. Fed. Arapien Valley 24-1			
2. NAME OF OPERATOR:			9. API NUMBER:			
Wolverine Gas and Oil Com  3. ADDRESS OF OPERATOR:	npany of Utan, LLC	PHONE NUMBER:	4303930030 10. FIELD AND POOL, OR WILDCAT:			
	Grand Rapids STATE MI ZIP	49503-2616 (616) 458-1150	Wildcat			
4. LOCATION OF WELL	O1777		<u> </u>			
FOOTAGES AT SURFACE: 2331' FI	NL, 549' FWL		соинту: Sanpete			
QTR/QTR, SECTION, TOWNSHIP, RANGE	E, MERIDIAN: SWNW 24 20S 1	E S	STATE: UTAH			
11. CHECK APPRO	OPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOI	RT, OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION				
MOTIOS OF INTENT	ACIDIZE	DEEPEN	REPERFORATE CURRENT FORMATION			
NOTICE OF INTENT (Submit in Duplicate)	ALTER CASING	FRACTURE TREAT	SIDETRACK TO REPAIR WELL			
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	CHANGE TO PREVIOUS PLANS	OPERATOR CHANGE	TUBING REPAIR			
<del></del>	CHANGE TUBING	PLUG AND ABANDON	VENT OR FLARE			
✓ SUBSEQUENT REPORT	CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL			
(Submit Original Form Only)	CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF			
Date of work completion:	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	other: Activity Update			
	CONVERT WELL TYPE	RECOMPLETE - DIFFERENT FORMATION				
12. DESCRIBE PROPOSED OR COM	MPLETED OPERATIONS. Clearly show all p	pertinent details including dates, depths, volume	es, etc.			
CONTINUED CONFIDENT	·	-				
CONTINUED CONTIDENT	ME OTHEOREGOESTED					
The drilling rig was released on 2/28/2008 and moved off location. Completion and testing activities since 12/01/08 include the following. Tubing was pulled and BHP gauges were recovered. New 2-7/8" tubing was hydrotested and landed with the packer set at 9471'. Attempted to produce well with no success from perforations at 12,290' - 12,316' prior to stimulating. The isolated perforations were fracture stimulated on 1/13/2009 using 50,000 lbs of 30/50 mesh sintered bauxite and 694 Bbls of fracturing fluid. Coiled tubing was used to clean proppant out to PBTD. Well was produced for a total of nine days following fracture stimulation and before being temporarily shut in 01/22/2009 due to lack of available oil storage capacity. Final flow rates before being shut in were 262 BOPD, 711 MCFD, and 13 BWPD.						
NAME (PLEASE PRINT) Ellis M. Pete	erson	Senior Production	n Engineer			
SIGNATURE FULL	Laures	DATE 1/28/2009				

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### STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

CONFIDENCE DESIGNATION OF THE PROPERTY OF THE

FORM 9

DIVISIO		UTU-80907			
SUNDRY NOT	6. IF INI	DIAN, ALLOTTEE OR TRIBE NAME:			
Do not use this form for proposals to drill new wells, si drill horizontal laterals. Use	gnificantly deepen existing wells below currer APPLICATION FOR PERMIT TO DRILL form	nt bottom-hole depth, n for such proposals.	eenter plugged wells, or to	7. UNIT	or CA AGREEMENT NAME: /erine Federal Unit
1. TYPE OF WELL OIL WELL	GAS WELL OTHER				NAME and NUMBER: 7. Fed. Arapien Valley 24-1
2. NAME OF OPERATOR: Wolverine Gas and Oil Company	of Litab LLC		<del></del>	9. API N	UMBER: 8930030
3. ADDRESS OF OPERATOR:			IONE NUMBER:		D AND POOL, OR WILDCAT:
55 Campau NW CITY Grand 4. LOCATION OF WELL	Rapids STATE MI ZIP 4	9503-2616 (	616) 458-1150	Wild	cat
FOOTAGES AT SURFACE: 2331' FNL, 54	49' FWL			COUNT	c Sanpete
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERID	DIAN: SWNW 24 20S 1E	S		STATE:	UTAH
11. CHECK APPROPRIA	ATE BOXES TO INDICATE	NATURE O	NOTICE, REPO	ORT, OF	R OTHER DATA
TYPE OF SUBMISSION		TYP	E OF ACTION		
☐ NOTICE OF INTENT	CIDIZE	DEEPEN			REPERFORATE CURRENT FORMATION
(Submit in Duplicate)	TER CASING	FRACTURE TR	EAT		SIDETRACK TO REPAIR WELL
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C+	ANGE TUBING	PLUG AND ABA	NDON		VENT OR FLARE
SUBSEQUENT REPORT (Submit Original Form Only)	HANGE WELL NAME	PLUG BACK			WATER DISPOSAL
	HANGE WELL STATUS	PRODUCTION	START/RESUME)		WATER SHUT-OFF
	OMMINGLE PRODUCING FORMATIONS [	RECLAMATION	OF WELL SITE	$\checkmark$	отнея: Activity Update
00	DNVERT WELL TYPE	RECOMPLETE	DIFFERENT FORMATION		
12. DESCRIBE PROPOSED OR COMPLETE	D OPERATIONS. Clearly show all per	tinent details inclu	ling dates, depths, volur	nes, etc.	
CONTINUED CONFIDENTIAL S	TATUS REQUESTED				
CONTINUED CONTIDENTIAL C	TATOO NE WOLOTED				
The drilling rig was released on 2 market for the produced oil since at 12,290' - 12,316' will continue.					
NAME (PLEASE PRINT) Ellis M. Peterson	ings.	TITLE	Senior Production 2/27/2009	on Engir	neer
(This was for Old Annual Co.)			P	ECE	WEL
(This space for State use only)			•	 Lanna	5 2009
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DIV. OF OIL, GAS & MINING

STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

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	UTU-80907	

FORM 9

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OIL WELL     GAS WELL   OTHER   WOV. Fed., Arapien Valley 24-1  2. IMME OF DEPARTOR: Wolverine Gas and Oil Company of Utah, LLC  3. Address of OPERATOR: SCERnpan WN	Do not use this form for proposals to drill drill horizontal	new wells, significantly deepen existing wells below current bo aterals. Use APPLICATION FOR PERMIT TO DRILL form for	ttom-hole depth, reenter plugged wells, o such proposals.	Wolverine Federal Unit			
NAME PLEASE PRINT)  2. A AN INJUSTICE  S. ADDRESS OF OPERATOR  Wolverine Gas and Oil Company of Utah, LLC  3. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  S. ADDRESS OF OPERATOR  Wildcat  VIII.  COUNTY: Sampete  COUNTY: Sampete  COUNTY: Sampete  COUNTY: Sampete  COUNTY: Sampete  COUNTY: Sampete  COUNTY: Sampete  COUNTY: Sampete  TYPE OF ACTION  TYPE OF ACTION  TYPE OF SUBMISSION  TYPE OF ACTION  ACCIZE  DEPTIN  ACCIZE  DEPTIN  ACCIZE  DEPTIN  ACCIDENT MANUEL  ACTIVE CASING REPAIR WELL  COUNTY: Sampete  CASING REPAIR WELL  ACRESS REPAIR OF MANUEL TRANS  DEPTIN  ACCIDENT MANUEL  ACCIDENT	1. TYPE OF WELL OIL WELL	GAS WELL OTHER					
3. ADDRESS OF OFERATOR \$5 Campau NW \$1. CAPTOR SWELL FOOTAGES AT SURFACE: 2331' FNL, 549' FWL  OTROTR, SECTION, TOWNSHIP, RANDE, MERIDIANE SWNW 24 20S 1E S  \$1. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF SUBMISSION  TYPE OF SUBMISSION  NOTICE OF INTENT  SIgnating hopelane)  ALTER CASING  PRACTURE TREAT  SUBSTRUCTION  ADDIZE  CASING REPAIR  ALTER CASING  PRACTURE TREAT  SUBSTRUCTION  CHANGE TO PREVIOUS PLANS  CHANGE TO PREVIOUS PLANS  CHANGE TO PREVIOUS PLANS  CHANGE TO PREVIOUS PLANS  CHANGE WILL STATUS  COMMUNICAL PRODUCTION (STATTRESUME)  COMMUNICAL PRODUCTION COMPONENT OF THE ACTIVITY OF THE ACTIVI				9. API NUMBER:			
4. LOCATION OF WELL OTRIGITS, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 24 20S 1E S  STATE:  UTAH  11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF SUBMISSION  NOTICE OF INTENT (Submit to believal)  Approximate date work will start:  CHANGE TO PRIVATE HONGE TO PREVIOUS PLANS  ORNAIGE TO PRIVATE HONGE TO PRIVATIONS  CHANGE TO PRIVATE HONGE TO PRIVATIONS  ORNAIGH From Only  Date of work completion:  ONLINE OR WILL THING  CONNECT WELL THING  TO CHANGE WELL HANDE  ORNAIGH FROM ONLY  Date of work completion:  ONLINE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  CONTINUED CONFIDENTIAL STATUS REQUESTED  The drilling rig was released on 2/28/2008 and moved off location. Production testing of the fracture stimulated perforations at 12,290° - 12,316° was resumed on 31/1/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved 60-day flaring period.  BESIND PRODUCED ENGINE TITLE  Senior Production Engineer  TITLE  Senior Production Engineer		ompany of Utah, LLC	PHONE MI IMBED				
4. LOCATION OF WELL PROTAGES AT SURFACE: 2331* FNIL, 549* FWL OTHOUTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SWNW 24 208 1E S STATE: UTAH  11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION NOTICE OF INTENT COMMITT		Grand Rapids STATE MI ZIP 4950		1			
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA  TYPE OF SUBMISSION  TYPE OF ACTION    NOTICE OF INTENT   ACIDIZE   DEEPEN   REPERPORTATE CURRENT FORMATION				соинту: Sanpete			
TYPE OF SUBMISSION    ACIDIZE	QTR/QTR, SECTION, TOWNSHIP, RA	NGE, MERIDIAN: SWNW 24 20S 1E	S				
NOTICE OF INTENT   ACIDIZE   DEEPEN   REPERPORATE CURRENT FORMATION   Approximate date work will start:   CASING   FRACTURE TREAT   SIDETRACK TO REPAIR WELL   Approximate date work will start:   CASING REPAIR   NEW CONSTRUCTION   TEMPORARILY ABANDON   DEEPEN REPORT   CHANGE TO PREVIOUS PLANS   OPERATOR CHANGE   TEMPORARILY ABANDON   DEEPEN REPORT   CHANGE TURING   PLUG AND ABANDON   VENT OR FLARE	11. CHECK APP	ROPRIATE BOXES TO INDICATE N	ATURE OF NOTICE, RE	PORT, OR OTHER DATA			
NOTICE OF INTERINT (Submit in Duplection) Approximate date work will start Approximate date work was approximate date. Approximate date work will start Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date work was approximate. Approximate date	TYPE OF SUBMISSION						
Approximate date work will start:    CASING REPAIR							
SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion:    CHANGE WELL NAME   PLUG AND ABANDON   VENT OR FLARE   WATER SHUT-OFF				_			
SUBSEQUENT REPORT   CHANGE WELL NAME   PLUG AND ABANDON   WATER DISPOSAL   WATER DISPOSAL   WATER DISPOSAL   WATER SHUT-OFF	, pp. ominate and non-moral						
CHANGE WELL STATUS   PRODUCTION (START/RESUME)   WATER SHUT-OFF   COMMINGLE PRODUCING FORMATIONS   RECLAMATION OF WELL SITE   OTHER: Activity Update   RECOMPLETE OF REC				VENT OR FLARE			
Date of work completion:  CHANCE WELL STATUS PRODUCTION GTART/RESUME)  WATER SHUT-OFF  COMMINGLE PRODUCTING FORMATIONS RECLANATION OF WELL STATUS OTHER: Activity Update  CONVERT WELL TYPE  RECOMPLETE- DIFFERENT FORMATION  12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  CONTINUED CONFIDENTIAL STATUS REQUESTED  The drilling rig was released on 2/28/2008 and moved off location. Production testing of the fracture stimulated perforations at 12,290' - 12,316' was resumed on 3/11/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved 60-day flaring period.  NAME (PLEASE PRINT) Ellis M. Peterson  TITLE Senior Production Engineer		CHANGE WELL NAME	PLUG BACK	WATER DISPOSAL			
COMMINGLE PRODUCING FORMATIONS RECLAMATION OF WELL SITE RECOMPLETE- DIFFERENT FORMATION  12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  CONTINUED CONFIDENTIAL STATUS REQUESTED  The drilling rig was released on 2/28/2008 and moved off location. Production testing of the fracture stimulated perforations at 12,290' - 12,316' was resumed on 3/11/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved 60-day flaring period.  NAME (PLEASE PRINT) Ellis M. Peterson  TITLE Senior Production Engineer		CHANGE WELL STATUS	PRODUCTION (START/RESUME)	WATER SHUT-OFF			
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  CONTINUED CONFIDENTIAL STATUS REQUESTED  The drilling rig was released on 2/28/2008 and moved off location. Production testing of the fracture stimulated perforations at 12,290' - 12,316' was resumed on 3/11/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved 60-day flaring period.  NAME (PLEASE PRINT) Ellis M. Peterson  TITLE Senior Production Engineer	Date of work completion:	COMMINGLE PRODUCING FORMATIONS	RECLAMATION OF WELL SITE	✓ other: Activity Update			
CONTINUED CONFIDENTIAL STATUS REQUESTED  The drilling rig was released on 2/28/2008 and moved off location. Production testing of the fracture stimulated perforations at 12,290' - 12,316' was resumed on 3/11/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved 60-day flaring period.  NAME (PLEASE PRINT) Ellis M. Peterson  TITLE Senior Production Engineer		CONVERT WELL TYPE	RECOMPLETE - DIFFERENT FORMA	TION			
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12,290' - 12,316' was resumed on 3/11/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved 60-day flaring period.  NAME (PLEASE PRINT) Ellis M. Peterson  TITLE Senior Production Engineer	CONTINUED CONFIDEN	ITIAL STATUS REQUESTED					
IIII	The drilling rig was released on 2/28/2008 and moved off location. Production testing of the fracture stimulated perforations at 12,290' - 12,316' was resumed on 3/11/2009 and the well is currently producing approximately 140 BOPD, 3 BWPD, and 557 MCFD. The gas is being flared per approval of UDOGM and BLM and the well has produced for 29 days of the approved						
IIII							
7/1/1000 2/27/2000	NAME (PLEASE PRINT) Ellis M. P	eterson	Senior Produ	ction Engineer			
	SIGNATURE ESTIMATION	dum					

(This space for State use only)

Form 3160-4 (April 2004)

### UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPROVED OMBNO 1004-0137 Expires: March 31, 2007

	WEI	LL CC	OMPLE	TION	OR	RECOMPLE	TIO	N REPOF	AN TS	ID LOG			5. Lease	Serial No.	
													UTU	-80907	
la. Type	of Well of Completi			Gas V Vew Well		Dry 0		epen Plu	ıg Baçk	☐ Diff.	Resv		N.A.		or Tribe Name
			Other				-							or CA Agree verine Uni	ement Name and No.
2. Name	of Operato	or Wol	verine C	as and	Oil Co	o. of Utah, LLC	2			^		- 8	8. Lease	Name and	
3. Addre	SS 55 Car	mpau N	W, Gra	nd Rapi	ids, M	I 49503		3a. Pho	ne No.	(include are	a coo	de) 9		Vell No.	apren vancy 24 1
							_		16-458-	-1150			_	39-30030	
<ol> <li>Locat</li> <li>At sur</li> </ol>						ccordance with			its)*			10		and Pool, or loratory	Exploratory
	4					, T20S, R1E, S , 590' FWL, S						1	I. Sec., Surve	v or Area	n Block and 24, T20S, R1E, SWNW, SLB&M
			10	per	HSW	Trevieu	١	,,,				12	2 Coun	ty or Parish	13. State
	ar depart	2370' F				4, T20S, R1E			7/		er	DKD	Sanpe		UT
14. Date :	Spudded 9/2007		15.	Date T.I 02/21		ched		16. Date C	22.0	ed 04/27/ Ready	The State of the S	100		tions (DF, F ' <b>KB, 5554</b>	RKB, RT, GL)* '' <b>GL</b>
18. Total		D 130 VD 130			19. J	Plug Back T.D.:		12755' 12752'	14	20. Dept	h Bri	dge Plug Se	t: MD	0	12369' 12366'
21 Tune				al Logs F	Pun (S	ubmit copy of e		- 12/32		22. Was	well	cored?	No [		mit analysis)
						GRI Per		emp.		Was	DST	- Automotive	No No	Yes (Sub	mit report) Submit copy)
23. Casin	g and Line	er Reco	rd (Rep	ort all st	rings	set in well)	100								,
Hole Size			Vt. (#/ft.)			Bottom (MD)	Sta	nge Cementer Depth	Туре	of Sks. & of Cement		urry Vol. (BBL)	Cemen		Amount Pulled
32.0"	24"		.25 wall			120	-		redi-	No. of Street, or other	38	THE RESERVE	Surfa		0
17.5"	13.375	5 J 6	8.0	Surf	ace	2017	+	-		Extended	97		Surf.	(CIRC)	0
12.25"	9.625		7.0/53.5	Surf	ace	10373	+			Fype III Elas+N2	85	-	Surf	(CIRC)	0
8.5"	5.50"	100	0.0 P	Surf	270000	12755	9	950	1 4 7 4 5	50:50 Poz	24	-011	Dura	CINC	
"	."		1201.1101.1101.				11	C. (F.) (C.)	1635		34	-	2990 (	CBL)	0
24 Tubin	g Record			-					17						
Size	Depth	Set (M	D) Pack	er Depth	(MD)	Size	De	epth Set (MD)	Packer	Depth (MD		Size	Depth	Set (MD)	Packer Depth (MD)
2 7/8	9476		946	2											
25. Produ	cing Interva			Т.		D-#	20	6. Perforation			٥.	1 37 7	7.1		S C C
A) ====	Formation	n		Top		Bottom	1	Perforated	interval		Size		Holes	_	Perf. Status
A) Nava B) Nava	***************************************			12373 12290	-	12380 12316	-	2373-12380 420-8556			10" 10"	42			CBP & cement
B) Nava C) Nava		7. 101		9217	-	9222	_	217-9222			10"	30	156   Open		neezed
	Supplemen	ntal Sh	eet	7217		7	_	ee Supplemer	ntal Sh			30	-	Tit sq	ucczeu
	Fracture, Tr			Squeeze,	etc.		1 5.	о опружение		-		-		-	
	Depth Interv	val						A	mount a	and Type of	Mate	rial		R	FOEWER
12373-1				None											ECEIVED AY 1 8 2009
12290-1						0/50 mesh baux								M	AY 1 8 2000
9217-92	22 plemental	Shoot		Cemer	ıt squ	eeze with 50 sa	acks	through CIC	K						1 0 2009
	ction - Inte				-									DIV. OF	OIL, GAS & MINI
Date First	Test	Hours	Test	. 0	il	Gas V	Vater	Oil Gray	vity	Gas		Production	Method		, and de Willy
Produced 04/16/2008	Date 04/25/2008	Tested 8	Produ	ection B	BL		BL	Corr. Al	21	Gravity		Flowing			
Choke	Tbg. Press.	Csg.	24 Hr	0	il	Gas 7	Vater	Gas/Oil		Well Sta	tus	-	7170		
Size	Flwg.	Press.	Rate	В	BL	MCF E	BBL	Ratio				Interval p	lugged bac	k below CIBF	
14/64	SI 400 uction - Inte	erual D		87	-	300	04	3448							
Date First	Test	Hours	Test	0	iI		ater	Oil Grav	rity	Gas	-	Production	Method		
Produced	Date	Tested	Produc	tion B	BL	MCF B	BL	Corr. Al		Gravity				160	
05/04/2008 Choke	04/16/2009	24	2417	82			O Zatan	54.9 Gas/Oil		0.838	202	riowing v	v/ plunger l	nt	
Size	Tbg, Press, Flwg,	Csg. Press.	24 Hr. Rate	BI	l BL	Gas V MCF B	/ater BL	Ratio		Well Stat	us				
48/64	SI 80			82		394	0	4805				Shut in bu	it capable o	of producing	

									<del></del>		
28b. Produ	ction - Inte	rval C Hours	Test	Oil	Gas	Water	Oil Grav	itv	Gas	Production Method	
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr. AP		Gravity		
05/29/2008 Choke	05/29/2008 Tbg. Press.	Csg.	24 Hr.	Oil	Gas	245 Water	48.3 Gas/Oil		1.439 Well Status	Flowing	
Size	Flwg.	Press.	Rate	BBL	MCF	BBL	Ratio		THE STATE	Interval plugged by squeezing	a with comont
48/64	SI 55 uction - Int	arual D	<b>→</b>	48	274	588	5708			interval prugged by squeezm	у with сешен
Date First	Test	Hours	Test	Oil	Gas	Water	Oil Gravi	ty	Gas	Production Method	
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr. AP	ľ	Gravity		
Choke	Tog. Press.	Csg.	24 Hr.	Oil	Gas	Water	Gas/Oil		Well Status		
Size	Flwg. SI	Press.	Rate	BBL	MCF	BBL	Ratio			See Supplemental Sheet	
29. Disp		Gas (Sold, 1	ised for fuel,	vented, et	 c.)	<del>-                                    </del>			L		
-	ed during	•	,	,	,						
30. Sum	mary of Por	ous Zones	(Include Aqu	ifers):					31. Format	ion (Log) Markers	
Show	v all import	ant zones	of porosity a	nd conten	its thereof:	Cored interv	als and all d	rill-stem			
tests,	including of	lepth interv	al tested, cus	hion used	, time tool o	pen, flowing	and shut-in p	ressures			
			1				·				Тор
Form	nation	Тор	Bottom		Desc	riptions, Cont	ents, etc.			Name	Meas. Depth
Navajo 1		8853	9813	Oil,	Gas, and V	Vater			Arapien		Surface
Navajo2		12121	13050		Gas, and V				Twin C	eek 1	8548
									Navajo Kayenta	1	8853 9813
									Wingate Chinle	•	9940 10278
									Shinaru		10673
				-					Moenko Sinbad	pi	10765 11642
									Black D	2	11915
	,								Navajo2	,	12121
									,		
	ļ										
32. Additi	ional remar	ks (include	plugging pro	cedure):							
33. Indicat	te which itr	nes have h	een attached	by placin	g a check in	the appropria	ite boxes:			······································	
			gs (1 full set	• -	-	eologic Repo		Report .	Direction	aal Survev	
			ng and cemei			ore Analysis	Oth	-	[V] Direction	ui bui voj	
34. I hereb	by certify th	at the fore	going and att	ached info	ormation is c	complete and	correct as de	erminedf	rom all availa	ble records (see attached instr	uctions)*
Name (	please prin	t) Ellis P	eterson				Title	Sr. Pro	duction Eng	ineer	
Signat	ure	Ellis Pet	terson	Degra dy s 2001 gosp osty Ocea Men	igned by EMI Primmes By Primmes, with sharple Greekel Of Lagues 1:19000 -01007	Corp. on. annib-rpourram@eediqub-rac.	Date	05/05/20	009		

Title 18 U.S.C Section 1001 and Title 43 U.S.C Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

### Form 3160-4 Supplemental Completion Information Well Completion Report and Log

Wolverine Federal Arapien Valley 24-1

25	Duad	lucing	Testam	701a
<i>ZJ</i> .	FIOU	ucmg	HILLEL	vais

<u>Interval</u>	<b>Formation</b>	<u>Top</u>	<u>Bottom</u>
D)	Navajo1	9145	9166
E)	Navajo1	9104	9131
F)	Navajo1	8942	8948
G)	Navajo1	8854	8922

### 26. Perforation Record

20. I Cilorano	11 100014			
<u>Interval</u>	Perforation Interval	<u>Size</u>	No. Holes	Perf. Status
D)	9145-54, 9160-66	0.40"	90	PA - squeezed
E)	9104-31	0.40"	162	PA - squeezed
F)	8942-48	0.40"	18	PA - squeezed
G)	8854-60, 8865-71, 8881-83 8904-8914, 8920-22	0.40"	78	PA – squeezed

### 27. Acid, Fracture, Treatment, Cement Squeeze, etc.

27. Hold, Haddard, Haddardit, Commont Squeeze, etc.					
<u>Interval</u>	Depth Interval	Amount and Type of Material			
D)	9145-9166	114 Bbls 4% KCl water w/ 120 ball sealers			
		Cement squeezed with interval (E)			
E)	9104-9131	148 Bbls 4% KCl water w/ 240 ball sealers Cement squeezed w/ 100 sks through CICR			
F)	8942-8948	Cement squeezed w/ 50 sks through CICR			
G)	8854-8922	56 Bbls 4% KCl water w/ 150 ball sealers Cement squeezed w/ 50 sks through CI			

### 28c. Production – Interval D

Date First Produced	Test Date 06/15/2008	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL 55	Oil Gravity Corr. API	Gas Gravity	Production Method
			,						flowing
Choke Size	Tbg. Press. Flwg	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Stat	tus
24/64	350		<b>→</b>	168	805	60	4792	Interval plu cement	ugged by squeezing with

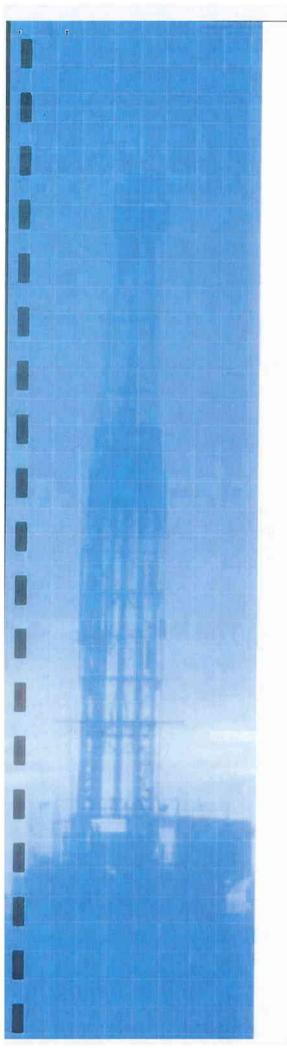
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
06/18/2008	06/14/2008	24	$\rightarrow$	128	740	217	44.0	1.65	flowing
Choke Size	Tbg. Press. Flwg	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Star	us
48/64	270		<b>→</b>	128	740	217	5781	Interval p	lugged by squeezing with cement
Date First Produced	28e. Produ Test Date	ction — In Hours Tested	terval F Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/07/2008 Choke		Csg.	24 Hr.	Oil	Gas	Water	Gas/Oil	Well Stat	flowing
Size	Tbg. Press. Flwg	Press.	Rate	BBL	MCF	BBL	Ratio	Wen Sta	·us
48/64	110		<b>→</b>	27	292	0	10815	Interval p	lugged by squeezing with cement
	28f. Produc	ction – In	terval G						
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API	Gas Gravity	Production Method
10/17/2008	10/22/2008		<b>→</b>	nil	nil	nil			Swabbing – no inflov
Choke Size	Tbg. Press. Flwg	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas/Oil Ratio	Well Star	tus

nil

nil

CONFIDENTIAL

Interval plugged by squeezing with cement





# Wolverine Gas & Oil Company

### Arapien Valley

Federal 24-1 Sec.24-T20S-R1E Sanpete County, Utah Rig – SST 68

Job # 1633111 November 5, 2007 -Februrary 23, 2008

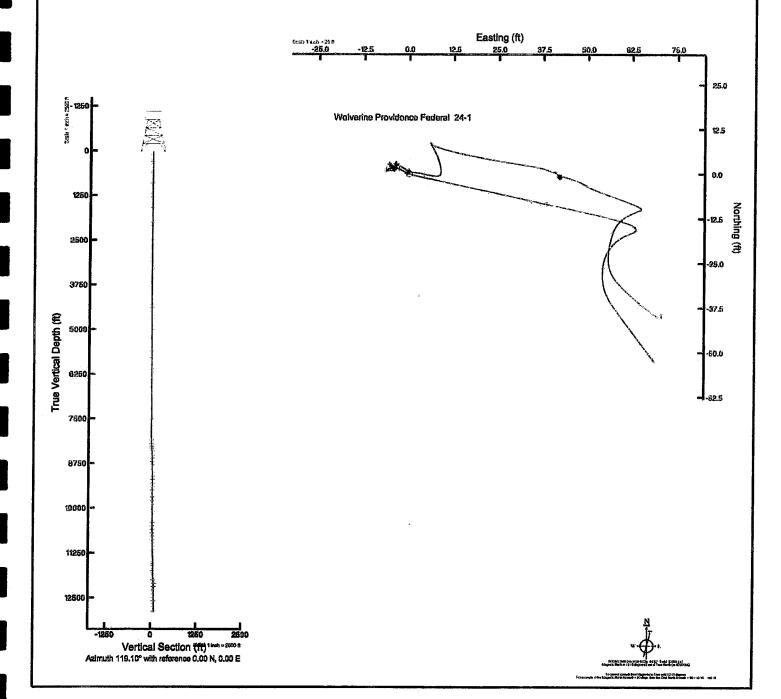


**INTEQ** 

## WOLVERINE GAS & OIL COMPANY cation: UTAH Field: Sanpete County Facility: SEC.24-T20S-R1E Well: Wolverine Providence Federal 24-1 Wellore: Wolverine Providence Federal 24-1 Wellhore: Wolverine Providence Federal 24-1

INTEO

Location: UTAH
Field: Sampete County
Facility: SEC.24-T20S-R1E
Bytely: 3 - (1-0 00) 84 (Fig. 16 at 16 at 16)
Bytely: 3 - (1-0 00) 84 (Fig. 16 at 16 at 16)
Bytely: 3 - (1-0 00) 84 (Fig. 16 at 16 at 16)
Bytely: 3 - (1-0 00) 84 (Fig. 16 at 16 at 16)
Bytely: 3 - (1-0 00) 84 (Fig. 16 at Galigher Mini James (Ink. Tana Come Lee (Ink.) see from Selected (Ink.) see James Rayan (Open Selected) (Challed None Des P. Selected)



### **Actual Wellpath Report**

Wolverine Providence Federal 24-1\_awp Page 1 of 5



REFERENCE WELLPATH IDENTIFICATION

Operator WOLVERINE GAS & OIL COMPANY

Area

UTAH

Field Sanpete County

Facility SEC.24-T20S-R1E

Slot

Wolverine Providence Federal 24-1

Well

Wolverine Providence Federal 24-1

Wellbore

Wolverine Providence Federal 24-1

Projection System NAD83 / Lambert Utah State Planes,

Central Zone (4302), feet

Software System

User

WellArchitect® 2.0

North Reference

Scale

True

0.999993

**Thomsuzc** 

Report Generated

9/25/2008 at 1:24:04 PM

Convergence at slot 0.17° West

Database/Source file Denver/Wolverine Providence Federal 24-1.xml

WELLPATH LOCAT	ION						
	Local coo	Local coordinates		ordinates	Geographic coordinates		
	North[ft]	East[ft]	Easting[ft]	Northing[ft]	Latitude	Longitude	
Slot Location	-15.97	13.88	1567120.46	6824986.74	39°03'21.360"N	111°45'29.213"W	
Facility Reference Pt			1567106.62	6825002.75	39°03'21.518"N	111°45'29.389"W	
Field Reference Pt			1640261.36	6895768.41	39°15'02.016"N	111°30'02.016"W	

WELLPATH DATUM			
Calculation method	Minimum curvature	Rig on NEW (RT) to Facility Vertical Datum	5583.00ft
Horizontal Reference Pt	Slot	Rig on NEW (RT) to Mean Sea Level	5583.00ft
Vertical Reference Pt	Rig on NEW (RT)	Facility Vertical Datum to Mud Line (Facility)	0.00ft
MD Reference Pt	Rig on NEW (RT)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	119.10°

## Actual Wellpath Report Wolverine Providence Federal 24-1\_awp Page 2 of 5

BAKER HUGHES INTEQ

RETER	ENCLANTERATION STATICALITY		
Operator	WOLVERINE GAS & OIL COMPANY	Slot	Wolverine Providence Federal 24-1
Area	UTAH	Well	Wolverine Providence Federal 24-1
Field	Sanpete County	Wellbore	Wolverine Providence Federal 24-1
Facility	SEC.24-T20S-R1E		

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	DLS [°/100ft]
0.00+	0.000	339.510	0.00	0.00	0.00	0.00	0.00
26.00	0.000	339.510	26.00	0.00	0.00	0.00	0.00
100.00	0.430	339.510	100.00	-0.21	0.26	-0.10	0.58
200.00	0.520	307.740	200.00	-0.95	0.89	-0.59	0.27
300.00	0.960	302.200	299.99	-2.23	1.61	-1.66	0.45
400.00	0.630	301.920	399.98	-3.62	2.35	-2.83	0.33
500.00	0.180	314.610	499.97	-4.32	2.75	-3.41	0.46
600.00	0.040	257.970	599.97	-4.49	2.85	-3.56	0.16
700.00	0.070	289.400	699.97	-4.58	2.87	-3.65	0.04
800.00	0.040	265.790	799.97	-4.67	2.89	-3.74	0.04
900.00	0.070	224.450	899.97	-4.72	2.84	-3.82	0.05
1000.00	0.110	215.970	999.97	-4.74	2.72	-3.92	0.04
1100.00	0.160	198.450	1099.97	-4.73	2.51	-4.02	0.06
1200.00	0.060	197.310	1199.97	-4.69	2.33	-4.08	0.10
1300.00	0.110	187.520	1299.97	4.65	2.18	-4.10	0.05
1400.00	0.090	203.270	1399.97	-4.60	2.01	-4.15	0.03
1500.00	0.060	188.510	1499.97	-4.58	1.89	-4.19	0.04
1600.00	0.100	165.240	1599.97	-4.50	1.75	-4.17	0.05
1700.00	0.070	199.430	1699.97	-4.43	1.61	-4.17	0.06
1800.00	0.060	190.780	1799.97	-4.40	1.50	-4.20	0.01
1900.00	0.120	352.370	1899.97	-4.45	1.55	-4.22	0.18
2000.00	0.030	200.460	1999.97	-4.51	1.63	-4.25	0.15
2100.00	0.100	48.400	2099.97	-4.47	1.67	-4.19	0.13
2200.00	0.120	17.480	2199.97	-4.47	1.82	-4.09	0.06
2300.00	0.090	140.260	2299.97	-4.41	1.86	-4.01	0.18
2400.00	0.040	344.810	2399.97	-4.36	1.84	-3.97	0.13
2500.00	0.040	4.190	2499.97	-4.40	1.91	-3.98	0.01
2600.00	0.050	190.470	2599.97	-4.40	1.90	-3.98	0.09
2700.00	0.110	193.310	2699.97	-4.36	1.76	-4.01	0.06
2800.00	0.130	177.900	2799.97	-4.28	1.55	-4.03	0.04
2900.00	0.120	193.300	2899.97	-4.19	1.34	-4.05	0.03
3000.00	0.130	212.530	2999.97	-4.17	1.14	-4.14	0.04
3100.00	0.130	222.650	3099.97	-4.20	0.96	-4.27	0.02
3200.00	0.170	355.720	3199.97	-4.31	1.03	-4.36	0.28
3300.00	0.280	347.050	3299.97	-4.56	1.41	-4.43	0.11
3400.00	0.060	121.010	3399.97	-4.67	1.62	-4.44	0.32
3500.00	0.100	167.690	3499.97	-4.56	1.51	-4.37	0.07
3600.00	0.180	168.860	3599.97	-4.40	1.27	-4.33	0.08
3700.00	0.140	212.690	3699.97	-4.31	1.02	-4.36	0.13
3800.00	0.310	266.720	3799.97	-4.54	0.90	-4.70	0.25
3900.00	0.460	276.360	3899.97	-5.14	0.93	-5.37	0.16
4000.00	0.440	258.610	3999.96	-5.80	0.90	-6.14	0.14
4100.00	0.050	52.830	4099.96	-6.08	0.85	-6.48	0.49
4200.00	0.160	10.480	4199.96	-6.10	1.01	-6.42	0.13
4300.00	0.130	344.250	4299.96	-6.23	1.26	-6.43	0.07

## Actual Wellpath Report Wolverine Providence Federal 24-1\_awp Page 3 of 5



INTEQ

REFER	ENCE WELLPATH IDENTIFICATION	A CHARLES	Philipped Charles Street Live
Operator	WOLVERINE GAS & OIL COMPANY	Slot	Wolverine Providence Federal 24-1
Area	UTAH	Well	Wolverine Providence Federal 24-1
Field	Sanpete County	Wellbore	Wolverine Providence Federal 24-1
Facility	SEC.24-T20S-R1E		

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect	North [ft]	East [ft]	DLS [°/100ft]
4400.00	0.200	103.890	4399.96	-6.14	1.32	-6.29	0.25
4500.00	0,250	70.190	4499.96	-5.83	1.36	-5.92	0.14
4600.00	0.250	65.550	4599.96	-5.55	1.52	-5.51	0.02
4700.00	0.260	32.290	4699.96	-5.41	1.80	-5.19	0.15
4800.00	0.210	341.130	4799.96	-5.54	2.17	-5.13	0.21
4900.00	0.180	322.090	4899.96	-5.82	2.46	-5.29	0.07
5000.00	0.200	319.410	4999.96	-6.13	2.72	-5.50	0.02
5100.00	0.070	178.280	5099.96	-6.26	2.79	-5.61	0.26
5200.00	0.120	154.240	5199.96	-6.14	2.64	-5.56	0.06
5300.00	0.280	111.460	5299.96	-5.81	2.45	-5.29	0.21
5400.00	0.740	111.160	5399.95	-4.93	2.13	-4.46	0.46
5500.00	1.380	117.260	5499.93	-3.09	1.35	-2.78	0.65
5600.00	0.580	116.850	5599.92	-1.38	0.57	-1.26	0.80
5700.00	0.080	93.350	5699.92	-0.81	0.33	-0.74	0.51
5800.00	0.070	97.620	5799.92	-0.69	0.32	-0.61	0.01
5900.00	0.090	73.700	5899.92	-0.58	0.33	-0.48	0.04
6000.00	0.070	61.750	5999.92	-0.49	0.39	-0.35	0.03
6100.00	0.100	130.240	6099.92	-0.37	0.36	-0.23	0.10
6200.00	0.090	345.150	6199.92	-0.34	0.38	-0.18	0.18
6300.00	0.170	36.510	6299.92	-0.38	0.57	-0.11	0.13
6400.00	0.020	267.890	6399.92	-0.37	0.69	-0.04	0.18
6500.00	0.040	312.580	6499.92	-0.42	0.71	-0.08	0.03
6600.00	0.030	292.350	6599.92	-0.48	0.75	-0.13	0.02
6700.00	0.100	217.850	6699.92	-0.52	0.69	-0.21	0.10
6800.00	0.110	124.930	6799.92	-0.44	0.57	-0.19	0.15
6900.00	0.260	101.160	6899.92	-0.13	0.47	0.12	0.17
7000.00	1.180	92.300	6999.91	1.01	0.38	1.37	0.92
7100.00	2.120	104.740	7099.86	3.72	-0.13	4.18	1.00
7200.00	1.440	93.720	7199.82	6.65	-0.68	7.23	0.76
7300.00	0.780	16.870	7299.80	7.64	-0.11	8.68	1.47
7400.00	1.490	351.630	7399.78	6.70	1.82	8.69	0.85
7500.00	1.970	337.050	7499.74	4.56	4.69	7.83	0.65
7600.00	1.530	330.110	7599.69	2.06	7.43	6,49	0.49
7700.00	0.090	303.350	7699.68	0.83	8.63	5.76	1.45
7800.00	0.150	106.990	7799.68	0.88	8.64	5.82	0.24
7900.00	0.070	173.450	7899.68	1.05	8.54	5.95	0.14
8000.00	0.200	148.790	7999.68	1.24	8.33	6.05	0.14
8100.00	1.770	113.300	8099.66	2.92	7.57	7.56	1.61
8200.00	5.850	103.260	8199.42	9.37	5.79	13.94	4.12
8300.00	4.960	100.030	8298.97	18.35	3.87	23.16	0.94
8400.00	3.650	98.170	8398.69	25.41	2.66	30.57	1.32
8500.00	2.540	101.010	8498.54	30.49	1.79	35.89	1.12
8600.00	1.540	113.520	8598.48	33.94	0.83	39.30	1.09
8700.00	0.120	46.280	8698.46	35.31	0.36	40.61	1.50
8800.00	0.040	315.880	8798.46	35.30	0.46	40.66	0.13

## Actual Wellpath Report Wolverine Providence Federal 24-1\_awp Page 4 of 5



REFER	ENCE WELLPATH IDENTIFICATION		
Operator	WOLVERINE GAS & OIL COMPANY	Slot	Wolverine Providence Federal 24-1
Area	UTAH	Well	Wolverine Providence Federal 24-1
Field	Sanpete County	Wellbore	Wolverine Providence Federal 24-1
Facility	SEC.24-T20S-R1E		

MD [ft]	Inclination [°]	Azimuth	TVD	Vert Sect	North [ft]	East [ft]	DLS [°/100ft]
8900.00	0.090	343.230	8898.46	35.21	0.56	40.61	0.06
9000.00	0.690	141.950	8998.46	35.71	0.16	40.96	0.77
9100.00	0.350	128.500	9098.46	36.57	-0.50	41.57	0.36
9200.00	0.080	177.360	9198.46	36.91	-0.76	41.81	0.30
9300.00	0.030	226.110	9298.46	36.94	-0.85	41.80	0.06
9400.00	0.100	0.380	9398.46	36.89	-0.78	41.78	0.12
9500.00	0.150	113.450	9498.46	36.97	-0.75	41.90	0.21
9600.00	0.140	175.240	9598.46	37.17	-0.92	42.03	0.15
9700.00	0.060	157.100	9698.46	37.28	-1.09	42.06	0.09
9800.00	0.040	258.380	9798.46	37.30	-1.14	42.05	0.08
9900.00	0.040	215.780	9898.46	37.27	-1.18	41.99	0.03
10000.00	0.070	60.490	9998.46	37.29	-1.18	42.02	0.11
10100.00	0.110	34.890	10098.46	37.34	-1.07	42.13	0.06
10200.00	0.120	15.440	10198.46	37.32	-0.89	42.22	0.04
10300.00	0.080	87.690	10298.46	37.35	-0.79	42.31	0.12
10400.00	0.020	303.310	10398.46	37.40	-0.77	42.37	0.10
10500.00	0.240	108.070	10498.46	37.59	-0.83	42.55	0.26
10600.00	0.320	80.010	10598.45	38.01	-0.85	43.03	0.16
10700.00	0.140	121.330	10698.45	38.35	-0.86	43.41	0.23
10800.00	1.240	107.120	10798.44	39.53	-1.24	44.54	1.10
10900.00	1.880	110.920	10898.41	42.21	-2.15	47.11	0.65
11000.00	0.680	128.510	10998.38	44.42	-3.10	49.11	1.25
11100.00	0.550	117.650	11098.37	45.48	-3.69	50.00	0.17
11200.00	1.630	112.770	11198.36	47.38	-4.47	51.73	1.08
11300.00	4.240	109.180	11298.22	52.43	-6.23	56.54	2.62
11400.00	2.900	111.470	11398.02	58.58	-8.37	62.38	1.35
11500.00	0.530	152.210	11497.97	61.48	-9.71	64.95	2.52
11600.00	0.950	255.690	11597.96	61.26	-10.32	64.37	1.19
11700.00	3.370	243.230	11697.89	59.01	-11.85	60.94	2.45
11800.00	4.170	199.970	11797.69	57.94	-16.59	57.07	2.88
11900.00	4.440	180.940	11897.41	60.34	-23.88	55.77	1.45
12000.00	5.430	135.480	11997.07	66.71	-31.13	59.02	3.92
12100.00	4.170	128.510	12096.72	74.84	-36.77	65.18	1.39
12200.00	1.740	123.380	12196.58	79.94	-39.86	69.30	2.44
12300.00	0.080	262.250	12296.57	81.40	-40.71	70.50	1.80
12400.00	0.220	44.170	12396.57	81.39	-40.58	70.56	0.29
12500.00	0.520	0.440	12496.57	81.22	-39.99	70.70	0.39
12600.00	0.230	343.490	12596.56	80.86	-39.34	70.64	0.31
12620.99	0.100	286.200	12617.55	80.81	-39.30	70.61	0.93

## Actual Wellpath Report Wolverine Providence Federal 24-1\_awp Page 5 of 5



REFER	ENCE WELLPATH IDENTIFICATION		
Operator	WOLVERINE GAS & OIL COMPANY	Slot	Wolverine Providence Federal 24-1
Area	UTAH	Well	<b>Wolverine Providence Federal 24-1</b>
Field	Sanpete County	Wellbore	Wolverine Providence Federal 24-1
Facility	SEC.24-T20S-R1E		

HOLE & CASING SECTIONS Ref Wellbore: Wolverine Providence Federal 24-1 Ref Wellpath: Wolverine Providence Federal 24-1_awp											
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]		
20in Conductor	0.00	146.00	146.00	0.00	146.00	0.00	0.00	0.57	-0.27		
13.375in Casing Surface	26.00	2017.00	1991.00	26.00	2016.97	0.00	0.00	1.63	-4.25		
9.625in Casing Intermediate	26.00	10372.00	10346.00	26.00	10370.46	0.00	0.00	-0.78	42.37		
7in Casing Production	26.00	12620.00	12594.00	26.00	12616.56	0.00	0.00	-39.30	70.62		

WELLPA?	TH COMI	POSITION	Ref Wellbore: Wolverine Providenc	e Federal 24-1 Ref	Wellpath: Wolverine Providence Federal 24-1_awp
Start MD	End MD	Pos	itional Uncertainty Model	Log Name/Comme	nt Wellbore
[ft]	[ft]				
26.00	12620.99	Generic gyro	- northseeking (Standard)	GYRO	Wolverine Providence Federal 24-1

			7								
	STATE OF UTAH		FORM 9								
	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU-80907								
SUNDRY NOTICES AND REPORTS ON WELLS  6. IF INDIAN, ALLOTTEE OR TRIBE NAME											
Do not use this form for propos bottom-hole depth, reenter plu DRILL form for such proposals.	sals to drill new wells, significantly deepen e igged wells, or to drill horizontal laterals. Us	existing wells below current se APPLICATION FOR PERMIT TO	7.UNIT or CA AGREEMENT NAME: WOLVERINE								
1. TYPE OF WELL Oil Well			8. WELL NAME and NUMBER: WOLV FED ARAPIEN VLY 24-1								
2. NAME OF OPERATOR: WOLVERINE GAS & OIL COMP.	ANY OF UTAH, LLC		9. API NUMBER: 43039300300000								
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Camp	au NW, Grand Rapids, MI, 49503	PHONE NUMBER: 616 458-1150 Ext	9. FIELD and POOL or WILDCAT: PROVIDENCE								
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331 FNL 0549 FWL			COUNTY: SANPETE								
QTR/QTR, SECTION, TOWNSHI	IP, RANGE, MERIDIAN: 4 Township: 20.0S Range: 01.0E Meridian: 9	S	STATE: UTAH								
CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA											
TYPE OF SUBMISSION		TYPE OF ACTION									
	☐ ACIDIZE	ALTER CASING	CASING REPAIR								
Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	☐ CHANGE WELL NAME								
7/10/2010	☐ CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	☐ CONVERT WELL TYPE								
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION								
Date of work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	☐ PLUG BACK								
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION								
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON								
	☐ TUBING REPAIR	✓ VENT OR FLARE	WATER DISPOSAL								
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION								
·	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER: Additional Testing/Flarir								
Wolverine Gas and O Board of Oil, Gas and to conduct additional and the Providence authorization to reco Providence Federal 24 with flaring and ver volume of gas so flare authorized test period	MPLETED OPERATIONS. Clearly show all pertical Company of Utah, LLC has real Mining, Department of Natural testing on the Wolverine Feduce Federal 24-1. The Board order omplete and stimulate the Arapa-4-4 and test each well for an anting of associated oil well gas, and from both wells does not exactly production period. This Sunder accomplish the Board-approver	eceived approval from the I Resources, State of Utal leral Arapien Valley 24-1 ers provided Wolverine pien Valley 24-1 and the dditional six month perion provided the aggregate reed 360,000 MCF for the ry requests approval from	Accepted by the Utah Division of Oil, Gas and Mining  ate: July 19, 2010								
NAME (PLEASE PRINT) Helene Bardolph	<b>PHONE NUMBER</b> 616 458-1150	TITLE Engineering Administrative Ass	istant								
SIGNATURE	010 430-1130	DATE									
N/A		7/6/2010									

	STATE OF UTAH		FORM 9
	DIVISION OF OIL, GAS, AND M		<b>5.LEASE DESIGNATION AND SERIAL NUMBER:</b> UTU-80907
SUNDF	RY NOTICES AND REPORT	S ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
Do not use this form for proposition-hole depth, reenter plu DRILL form for such proposals.	sals to drill new wells, significantly deep ugged wells, or to drill horizontal laterals	en existing wells below current s. Use APPLICATION FOR PERMIT TO	7.UNIT or CA AGREEMENT NAME: WOLVERINE
1. TYPE OF WELL Oil Well			8. WELL NAME and NUMBER: WOLV FED ARAPIEN VLY 24-1
2. NAME OF OPERATOR: WOLVERINE GAS & OIL COMP	ANY OF UTAH, LLC		9. API NUMBER: 43039300300000
3. ADDRESS OF OPERATOR: One Riverfront Plaza 55 Camp	pau NW, Grand Rapids, MI, 49503	HONE NUMBER: 616 458-1150 Ext	9. FIELD and POOL or WILDCAT: PROVIDENCE
4. LOCATION OF WELL FOOTAGES AT SURFACE: 2331 FNL 0549 FWL			COUNTY: SANPETE
QTR/QTR, SECTION, TOWNSHI Qtr/Qtr: SWNW Section: 24	IP, RANGE, MERIDIAN: 4 Township: 20.0S Range: 01.0E Meridia	an: S	STATE: UTAH
11. CHE	CK APPROPRIATE BOXES TO INDIC	CATE NATURE OF NOTICE, REPORT	T, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	☐ ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	☐ CHANGE TO PREVIOUS PLANS	☐ CHANGE TUBING	☐ CHANGE WELL NAME
	☐ CHANGE WELL STATUS	☐ COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
✓ SUBSEQUENT REPORT  Date of Work Completion:	☐ DEEPEN	✓ FRACTURE TREAT	☐ NEW CONSTRUCTION
8/6/2010	☐ OPERATOR CHANGE	☐ PLUG AND ABANDON	✓ PLUG BACK
SPUD REPORT	☐ PRODUCTION START OR RESUME	☐ RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	☐ REPERFORATE CURRENT FORMATION	☐ SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	☐ TUBING REPAIR	☐ VENT OR FLARE	☐ WATER DISPOSAL
DRILLING REPORT Report Date:	☐ WATER SHUTOFF	$\square$ SI TA STATUS EXTENSION	APD EXTENSION
	☐ WILDCAT WELL DETERMINATION	OTHER	OTHER: Recomplete
	     DMPLETED OPERATIONS. Clearly show all		•
	Please see attached docume		
Includ	led on BLM Sundry notice fil	ed 12/2/2010.	Accepted by the Utah Division of
		0	Otan Division of Oil, Gas and Mining
			R RECORDONLY
		гО	R RECM/M20001LI
NAME (PLEASE PRINT) Helene Bardolph			
Therefie bardolphi	<b>PHONE NUMBE</b> 616 458-1150	TITLE Engineering Administrative A	ssistant

Wolverine Federal Arapien Valley 24-1:

**BLM Sundry Notice** 

Type of Submission: Subsequent Report

Type of Action: Fracture Treat, Plug Back, Recomplete

Date of Work Start: 7/9/2010

Date of Work Completion: 8/6/2010

Details:

The Wolverine Federal Arapien Valley 24-1 was plugged back to 9,245' to abandon the Navajo 2 interval and perforated at 8998' -9020' with 6 spf in the Navajo 1 pay interval. A fracture stimulation was pumped into the new perforation interval with a planned volume of 26,000 gallons of fluid, 10,000 lbs of 100 mesh proppant, and 60,000 lbs of 20/40 mesh bauxite proppant. Prior to the fracture treatment a Differential Fracture Injection Test (DFIT) was pumped with 1100 gallons of 2% KCL brine at an average rate of 3.8 BPM and average pressure of 3,382 psi. Early screen-out occurred during the treatment and a total of 27,000 lbs of proppant were placed into the formation with a maximum rate of 25.1 BPM and maximum treating pressure of 8,469 psi. Coiled tubing was run in hole and the wellbore was flushed out to begin flowback for rate and clean up. A packer and production tubing were set and the well was put on production. Currently, the well is flowing at an average daily rate of 201 BOPD, 26 BWPD & 2.4 MMCFD.

Form 3160-5 (April 2004)

1. Type of Well Oil Well □

TYPE OF SUBMISSION

### UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE- Other instructions on reverse side.

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE

Gas Well□□

2. Name of Operator Wolverine Gas and Oil Company of Utah, LLC

Location of Well (Footage, Sec., T., R., M., or Survey Description)
 2331' FNL, 549' FWL, Sec. 24, T20S, R1E, SLB&M

55 Campau NW, Grand Rapids, MI 49503

	FORM APPROVED OM B No. 1004-0137 Expires: March 31, 2007
	5. Lease Serial No. UTU-80907
	If Indian, Allottee or Tribe Name     NA
	7. If Unit or CA/Agreement, Name and/or No.  Wolverine Unit
	8. Well Name and No. Wolverine Federal Arapien Valley 24-1
	9. API Well No. 43-039-30030
	<ol> <li>Field and Pool, or Exploratory Area</li> <li>Wildcat</li> </ol>
	11. County or Parish, State  Sanpete County, Utah
RI	EPORT, OR OTHER DATA

Notice of Intent  ✓ Subsequent Report  ☐ Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (Start/Resume) Reclamation Recomplete Temporarily Abandon Water Disposal	Water Shut-Off Well Integrity Other Activity Update
13. Describe Proposed or Complete				ork and approximate duration thereof.

3b. Phone No. (include area code)

TYPE OF ACTION

616-458-1150

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Wolverine Federal Arapien Valley 24-1 was shut-in for a pressure build up analysis on February 22, 2011 which concluded 202 days of testing while producing 37,781 BO and 438 MMCF of gas. Two pressure bombs were lowered into the well prior to shut-in and will be removed from the well after 450 hours of shut-in time. The well will remain shut-in indefinitely until Wolverine completes its analysis of the testing and build up data and presents it to the Board of Oil, Gas and Mining. At this point the Board will make its determination regarding the associated oil well gas. The tubing and packer will also be pulled in the near future for inspection and to repair a leak in the packer. Attached is the production data covering the duration of the permitted testing period.

1		
Title Production I	Engineer	
Date	03/10/2011	
OR STATE O	FFICE USE	
Title	Date	
	Date  L OR STATE O  Title	L OR STATE OFFICE USE  Title Date

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

RECEIVED

MAR 1 4 2011

### GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this

form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from the local Federal office.

### SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or

present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well and date well site conditioned for final inspection looking to approval of the abandonment.

#### NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

**ROUTINE USES:** Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

**EFFECT OF NOT PROVIDING THE INFORMATION:** Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

This information is being collected to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

### **BURDEN HOURS STATEMENT**

Public reporting burden for this form is estimated to average 25 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C St., N.W., Washington D.C. 20240

**Wolverine Federal Arapien Valley 24-1** 

FieldName	Date	Oil	Water	Gas	Total Fluid	Water-Cut	GOR	TD	TE	CD .	re	Choko	Dun Timo	Comments
24-01 AV	2/28/2011	0	0	0	0	0%	0			1160		0	0	SI for PBU
24-01 AV	2/27/2011	ō	0	o	Ö	0%	0			1160		0	0	
24-01 AV	2/26/2011	ō	ō	Ö	Ŏ	0%	0			1150		0	0	SI for PBU
24-01 AV	2/25/2011	ō	ō	ō	Ö	0%	0			1150		0	0	SI for PBU SI for PBU
24-01 AV	2/24/2011	0	0	ő	Ö	0%	ō			1150		0	0	31 101 FBU
24-01 AV	2/23/2011	ō	Ö	ō	o	0%	ő			1150		23	0	CI for DDII
24-01 AV	2/22/2011	38.37	6.23	602	45	14%	15689			1090				SI for PBU
24-01 AV	2/21/2011	166.57	41.63	1998	208	20%	11995			1050		23 23	5.5 21	SI for PBU
24-01 AV	2/20/2011	187.87	36.64	2288	225	16%	12179		F					
24-01 AV	2/19/2011	213.21	29.37	2371	243	12%	11120			1050		23 23	24 24	
24-01 AV	2/18/2011	195.76	37.03	2363	233	16%	12071		F			23	24 24	
24-01 AV	2/17/2011	201.23	31.64	2363	233	14%	11743							
24-01 AV	2/16/2011	189.89	43.3	2373	233	19%	12497		F	1050		23	24	
24-01 AV	2/15/2011	202.84	34.98	2416	238		11911		F	1050		24	24	
24-01 AV	2/14/2011	203.78	36.69	2419	240	15% 15%	11871			1050 1050		24	24	
24-01 AV	2/13/2011	204.03	39.98	2423	244	16%	11876					24	24	
24-01 AV	2/12/2011	189.09	51.68	2423	241					1050		24	24	
24-01 AV	2/12/2011	205.49	26.69	2427 2427	232	21%	12835			1050		24	24	
24-01 AV	2/11/2011	195.72	43.29	2427		11%	11811		F	1050		24	24	
24-01 AV	2/9/2011	202.81	43.29	2431	239	18%	12421			1050		24	24	
24-01 AV 24-01 AV	2/8/2011	197.87	30.44	2456 2460	244	17%	12021		F	1050		24	24	
24-01 AV	2/7/2011	200.81	59.95		228	13%	12432		F	1050		24	24	
24-01 AV	2/6/2011	196.53	41.63	2465 2461	261 238	23%	12275			1050		24	24	
24-01 AV	2/5/2011	206.64	33.31	2401		17%	12522		F	1050		24	24	
24-01 AV	2/4/2011	197.85	46.67	2476	240	14%	11982			1050		24	24	
24-01 AV	2/3/2011	201.53	40.01	2490 2490	245	19%	12585		F	1050		24	24	
24-01 AV	2/2/2011	204.53	33.4		242	17%	12355		F	1050		24	24	
24-01 AV 24-01 AV	2/2/2011	193.29		2499	238	14%	12218			1050		24	24	
24-01 AV	1/31/2011	214.48	49.64 31.61	2314 2448	243	20%	11972			1050		23	24	
24-01 AV	1/30/2011	207.43			246	13%	11414			1050		23	24	
24-01 AV	1/29/2011	184.9	35.01 45.08	2451	242	14%	11816			1050		23	24	
24-01 AV 24-01 AV	1/28/2011	188.28	43.57	2450 2452	230	20%	13250			1050		23	24	
24-01 AV 24-01 AV	1/27/2011	218.76			232	19%	13023			1050		23	24	
24-01 AV	1/26/2011	202.83	25.01	2451	244	10%	11204	942		1050		23	24	
24-01 AV	1/25/2011		31.67	2452	235	14%	12089			1050		23	24	
24-01 AV 24-01 AV	1/24/2011	187.84 215.37	46.71 21.29	2456 2460	235	20%	13075		F	1050		23	24	
24-01 AV	1/23/2011	197.43	34.99	2400	237 232	9% 150	11422			1050		23	24	
24-01 AV	1/23/2011	203.2	35.01	2400 2417		15%	12156			1020		23	24	
24-01 AV	1/21/2011	203.2	34.01	2417	238 244	15%	11895			1020		23	24	
24-01 AV	1/21/2011	185.77	35.81	2424	244	14%	11567			1020		23	24	
24-01 AV	1/19/2011	199.44	35.25	2435 2446		16%	13097	931		1030		23	24	
24-01 AV	1/18/2011	215.42	33.3	2446	235	15%	12264			1000		23	24	
24-01 AV	1/17/2011	198.67	33.3 34.97		249	13%	11396			1000		23	24	
24-01 AV	1/16/2011	200.29	35.01	2473 2423	234 235	15%	12448	891		1000		25	24	
24-01 AV	1/15/2011	199.96	30			15%	12097			1000		25	24	
24-01 AV				2435	230	13%	12177			1000		25	24	
24-01 AV 24-01 AV	1/14/2011 1/13/2011	207.84 186.53	35.02 36.75	2443 2448	243	14%	11754			1000		25	24	
24-01 AV 24-01 AV	1/13/2011	206.62	36.75 20.97		223	16%	13124			1000		25	24	
24-01 AV 24-01 AV	1/12/2011	190.34	29.97 39.97	2447 2425	237	13%	11843	829		1000		25	24	
24-01 AV 24-01 AV	1/11/2011	190.54	33.32	2425 2428	230 233	17%	12740	835 834		1000		24	24	
24-01 AV	1/9/2011	201.62	33.32 26.67	2428 2441	233	14% 12%	12148 12107			1000 1000		24 24	24	
	-1-1-011	202.02	20.07	V-1-4T	220	1470	46101	037	٢	TOOO	31	24	24	

Cum Oil	<b>Cum Water</b>	Cum Gas
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,743	5,266	437,257
37,577	5,224	435,259
37,389	5,187	432,971
37,175	5,158	430,600
36,980	5,121	428,237
36,778	5,089	425,874
36,589	5,046	423,501
36,386	5,011	421,085
36,182	4,974	418,666
35,978	4,934	416,243
35,789	4,883	413,816
35,583	4,856	411,389
35,388	4,813	408,958
35,185	4,771	406,520
34,987	4,741	404,060
34,786	4,681	401,595
34,590	4,639	399,134
34,383	4,606	396,658
34,185	4,559	394,168
33,984	4,519	391,678
33,779	4,486	389,179
33,586	4,436	386,865
33,371	4,404	384,417
33,164	4,369	381,966
32,979	4,324	379,516
32,791	4,281	377,064
32,572	4,256	374,613
32,369	4,224	372,161
32,181	4,177	369,705
31,966	4,156	367,245
31,768	4,121	364,845
31,565	4,086	362,428
31,356	4,052	360,004
31,170	4,016	357,571
30,970	3,981	355,125
30,755	3,948	352,670
30,556	3,913	350,197
30,356	3,878	347,774
30,156	3,848	345,339
29,948	3,813	342,896
29,762	3,776	340,448
29,555	3,746	338,001
29,365	3,706	335,576
29,165	3,673	333,148

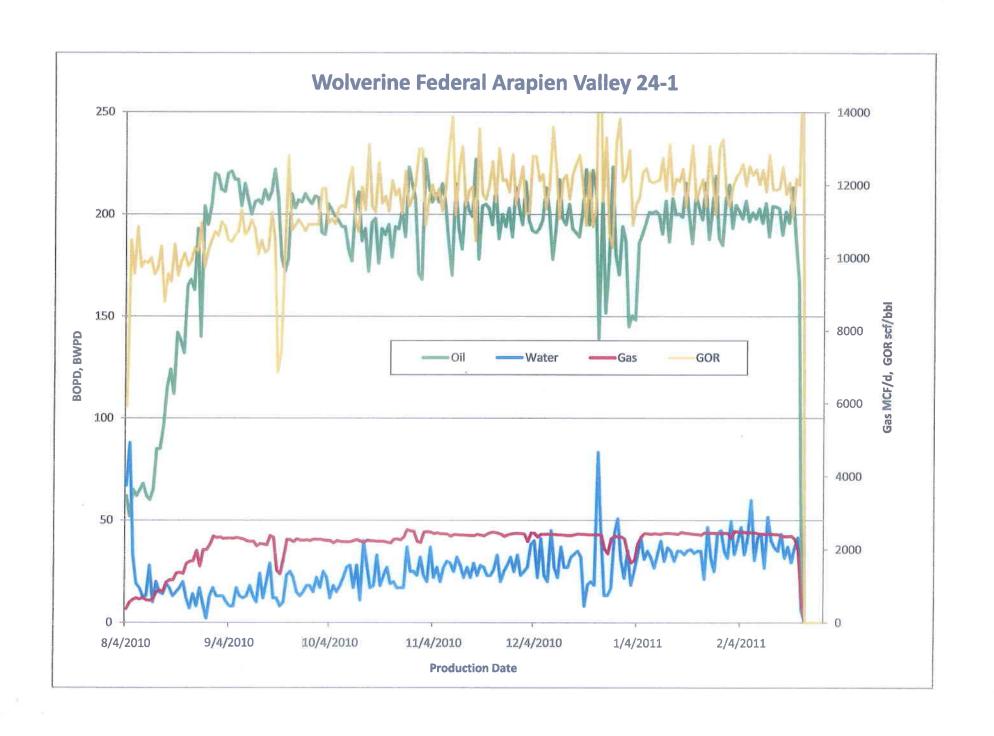
24-01 AV	1/8/2011	200.73	31.68	2424	232	14%	12076	844	F	1000 5	SI	24	24		28,963	3,646	330,707
24-01 AV	1/7/2011	201.16	35.04	2436	236	15%	12110	848	F	1000 9	SI	24	24		28,763	3,614	328,283
24-01 AV	1/6/2011	195.85	30.96	2442	227	14%	12469	851	F	1000 9	St	24	24		28,561	3,579	325,847
24-01 AV	1/5/2011	190.27	41.26	2351	232	18%	12356	865	F	1000 9	SI .	24	24		28,366	3,548	323,405
24-01 AV	1/4/2011	186.21	33.31	2170	220	15%	11654	890	F	1000 5	SI .	23	24		28,175	3,507	321,054
24-01 AV	1/3/2011	148.23	25.01	1701	173	14%	11475	975	F	1000 5	SI	19	24		27,989	3,474	318,884
24-01 AV	1/2/2011	150.42	18.33	1640	169	11%	10903	971	F	1000 5	SI	19	24		27,841	3,449	317,183
24-01 AV	1/1/2011	144.97	35.01	1879	180	19%	12961	940	F	950 5	SI :	21	22	Down due to mechanical problems	27,690	3,430	315,543
24-01 AV		186.55	21.71	2294	208	10%	12297	929	F	975 5	Si :	24	24	·	27,545	3,395	313,664
24-01 AV		194.17	30.38	2348	225	14%	12093	861	F	980 5	SI :	24	24		27,359	3,374	311,370
24-01 AV	12/29/2010	170.3	50.73	2353	221	23%	13817	860	F	980 9	SI :	24	24		27,165	3,343	309,022
24-01 AV		180.45	43.29	2367	224	19%	13117	862	F	980 5	SI :	24	24		26,994	3,293	306,669
24-01 AV	12/27/2010	223.2	16.7	2297	240	7%	10291	863	F	1000 5	31	24	24		26,814	3,249	304,302
24-01 AV		176.68	13.33	1888	190	7%	10686	913	F	1000 9	31	22	22	Mechanical problems	26,591	3,233	302,005
24-01 AV	12/25/2010	151.7	13.3	2019	165	8%	13309	922	F	1000 S	SI :	24	18	Mechanical problems	26,414	3,219	300,117
24-01 AV	12/24/2010	207.78	41.63	2401	249	17%	11555	848	F	1000 S	SI :	24	24	·	26,262	3,206	298,098
24-01 AV	12/23/2010	139.1	83.35	2404	222	37%	17283	850	F	1000 S	SI :	24	24		26,055	3,164	295,697
24-01 AV		212.02	18.35	2402	230	8%	11329	850	F	1000 S	SI :	24	24		25,916	3,081	293,293
24-01 AV	12/21/2010	221.54	20.07	2407	242	8%	10865	852	F	1000 S	SI :	24	24		25,703	3,063	290,891
24-01 AV	12/20/2010	194.95	18.59	2409	214	9%	12357	852	F	1000 S	SI :	24	24		25,482	3,043	288,484
24-01 AV	12/19/2010	222	8	2418	230	4%	10891	853	F	1000 S	31	24	24		25,287	3,024	286,075
24-01 AV	12/18/2010	201	32	2419	233	14%	12026	854	F	1000 S	i :	24	24		25,065	3,016	283,657
24-01 AV	12/17/2010	189	35	2426	224	16%	12831	856	F	1000 S	il i	24	24		24,864	2,984	281,238
24-01 AV	12/15/2010	193	32	2384	225	14%	12340	867	F	1000 S	31 3	24	24		24,675	2,949	278,812
24-01 AV	12/14/2010	205	27	2385	232	11%	11613	870	F	1000 S	il :	24	24		24,482	2,917	276,428
24-01 AV	12/13/2010	195	27	2394	222	12%	12277	871	F	1000 S	3	24	24		24,277	2,890	274,043
24-01 AV	12/12/2010	198	37	2403	234	16%	12150	872	F	1010 S	it :	24	24		24,082	2,863	271,649
24-01 AV	12/11/2010	217	22	2406	239	9%	11086	873	F	1010 S	i 2	24	24		23,884	2,826	269,246
24-01 AV	12/10/2010	193	27	2415	220	12%	12492	876	F	1010 S	i :	24	24		23,667	2,804	266,840
24-01 AV	12/9/2010	178	45	2418	223	20%	13600	876	F	1010 S	1 2	24	24		23,474	2,777	264,425
24-01 AV	12/8/2010	202	20	2422	222	9%	11984	878	F	1010 S	1 2	24	24		23,296	2,732	262,007
24-01 AV	12/7/2010	213	23	2420	237	10%				1010 S		24	24		23,094	2,712	259,585
24-01 AV	12/6/2010	197	41	2419	237	17%	12307	883	F	1010 S	1 2	24	24		22,881	2,689	257,165
24-01 AV	12/5/2010	193	22	2342	215	10%				1010 S		23	24		22,684	2,648	254,746
24-01 AV	12/4/2010	191	40	2447	231	17%	12795	880	F	1010 S	1 2	24	24		22,491	2,626	252,404
24-01 AV	12/3/2010	192	38	2450	230	17%				1010 S		24	24	· ·	22,300	2,586	249,957
24-01 AV	12/2/2010	197	27	2219	224	12%	11237	885	F	1000 S	1 2	24	23	Down for scada test	22,108	2,548	247,507
24-01 AV	12/1/2010	216	25	2425	241	10%				1025 S		24	24		21,911	2,521	245,288
24-01 AV	11/30/2010	195	23	2439	218	11%				1025 S		24	24		21,695	2,496	242,863
24-01 AV	11/29/2010	203	33	2442	237	14%	12017	882	F	1025 S	1 2	24	24		21,500	2,473	240,424
24-01 AV	11/28/2010	213	25	2440	238	11%	11463			1025 S		24	24		21,297	2,440	237,982
24-01 AV	11/27/2010	189	32	2425	220	14%				1025 S		24	24		21,084	2,415	235,542
24-01 AV	11/26/2010	203	28	2399	232	12%				1025 S		24	24		20,895	2,383	233,117
24-01 AV	11/25/2010	194	25	2360	219	11%				1025 S		24	24		20,692	2,355	230,718
24-01 AV	11/24/2010	200	20	2423	220	9%			F	1025 S	1 2	24	24		20,498	2,330	228,358
24-01 AV	11/23/2010	188	33	2451	222	15%	13014			1025 S		24	24		20,298	2,310	225,935
24-01 AV	11/22/2010	214	26	2469	240	11%	11536			1025 S		24	24		20,110	2,277	223,484
24-01 AV	11/21/2010	195	23	2466	218	11%				1025 S		24	24		19,896	2,251	221,015
24-01 AV	11/20/2010	203	23	2430	226	10%				1025 S		24	24		19,701	2,228	218,549
24-01 AV	11/19/2010	205	27	2378	232	12%				1025 S		23	24		19,498	2,205	216,119
24-01 AV	11/18/2010	204	28	2395	232	12%	11755			1025 SI		23	24		19,293	2,178	213,741
24-01 AV	11/17/2010	178	23	2415	201	11%	13546			1025 S		23	24		19,089	2,150	211,346
24-01 AV	11/16/2010	227	29	2381	257	11%	10467	916	F :	1025 SI	1 2	23	24		18,911	2,127	208,931

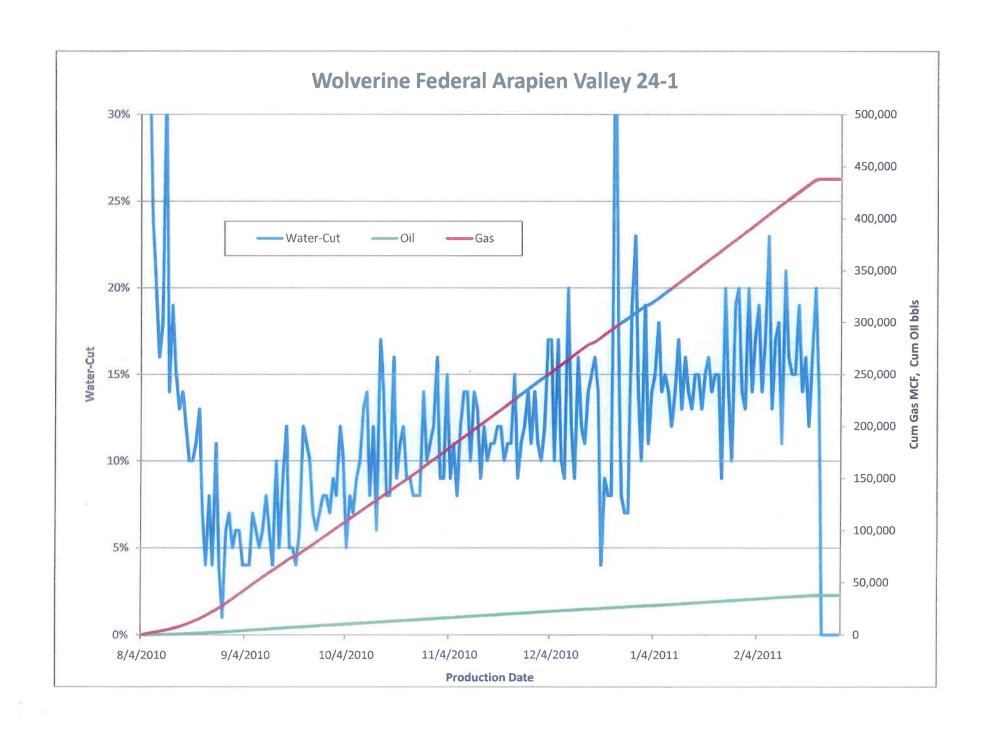
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24-01 AV	11/15/2010	199	22	2383	221	10%	11959 917	F 10	25 SI	23	24		18,684	2,098	206,550
24-01 AV	11/14/2010	202	27	2389	228	12%	11854 922	F 10	25 SI	23	24		18,48	2,076	204,167
24-01 AV	11/13/2010	209	22	2395	231	9%	11448 922	F 10	25 Si	23	24		18,28	2,049	201,778
24-01 AV	11/12/2010	183	28	2397	212	13%	13071 922			23	24		18,07	2,027	199,383
24-01 AV	11/11/2010	193	32	2404	225	14%	12442 923	F 103	25 SI	23	24		17,89	1,999	196,986
24-01 AV	11/10/2010	215	25	2408	240	10%	11179 926	F 10	25 SI	23	24		17,698	1,967	194,582
24-01 AV	11/9/2010	170	29	2364	199	14%	13870 928	F 102	25 SI	23	23	Down 1 hr for maint.	17,483	1,942	192,174
24-01 AV	11/8/2010	186	30	2424	216	14%	13019 926	F 10	25 SI	23	24		17,31	1,913	189,810
24-01 AV	11/7/2010	205	27	2430	232	12%	11879 930	F 10	25 SI	23	24		17,127	1,883	187,386
24-01 AV	11/6/2010	215	20	2432	235	8%	11295 931	F 10	25 SI	23	24		16,92	1,856	184,956
24-01 AV	11/5/2010	206	27	2455	233	11%	11905 929	F 10	25 SI	23	24		16,70	1,836	182,524
24-01 AV	11/4/2010	210	22	2435	231	9%	11618 935	F 10	25 SI	23	24		16,50	1,809	180,069
24-01 AV	11/3/2010	206	37	2477	243	15%	12010 931			23	24		16,29	1,787	177,634
24-01 AV	11/2/2010	214	20	2488	234	9%	11631 932	F 102	25 SI	23	24		16,08	1,750	175,157
24-01 AV	11/1/2010	227	23	2475	250	9%	10918 932			23	24		15,87	1,730	172,669
24-01 AV	10/31/2010	168	32	2188	200	16%	12998 951	F 10	25 SI	22	21	SI due to tank room	15,644	1,707	170,194
24-01 AV	10/30/2010	171	23	2219	194	12%	12996 938	F 10	25 SI	23	20		15,470	1,675	168,006
24-01 AV	10/29/2010	207	25	2497	232	11%	12060 938	F 102	25 SI	23	24		15,30	1,652	165,787
24-01 AV	10/28/2010	215	25	2508	240	10%	11669 938	F 10	25 SI	23	24		15,098	1,627	163,290
24-01 AV	10/27/2010	223	37	2545	259	14%	11420 932			23	24		14,883	1,602	160,782
24-01 AV	10/26/2010	189	17	2343	206	8%	12383 946	F 10	25 SI	23	23	SI for maintanance	14,666	1,565	158,237
24-01 AV	10/25/2010	202	17	2261	218	8%	11216 976	F 10	25 SI	21	24		14,47	. 1,548	155,894
24-01 AV	10/24/2010	193	17	2290	209	8%	11894 973			21	24		14,269	1,531	153,633
24-01 AV	10/23/2010	194	20	2277	214	9%	11725 977			21	24		14,076	-	151,343
24-01 AV	10/22/2010	179	19	2177	198	9%	12131 875			21	24		13,882	1,494	149,066
24-01 AV	10/21/2010	195	27	2198	221	12%		F 10		21	23		13,703	1,475	146,889
24-01 AV	10/20/2010	190	23	2216	212	11%	11692 984			21	24		13,508	1,448	144,691
24-01 AV	10/19/2010	193	18	2222	212	9%	11500 986			21	24		13,318	1,425	142,475
24-01 AV	10/18/2010	176	33	2225	210	16%	12621 986			21	24		13,12		140,253
24-01 AV	10/17/2010	198	18	2233	217	8%	11265 988			21	24		12,949	1,374	138,028
24-01 AV	10/16/2010	196	17	2239	213	8%	11407 987			21	24		12,753		135,795
24-01 AV	10/15/2010	172	28	2253	200	14%	13122 998			21	24		12,555		133,556
24-01 AV	10/14/2010	193	40	2187	233	17%	11320 984			21	24		12,383		131,303
24-01 AV	10/13/2010	187	11	2231	198	6%	11952 1000			21	24		12,190		129,116
24-01 AV	10/12/2010	211	28	2269	240	12%	10731 997			21	24		12,003		126,885
24-01 AV	10/11/2010	203	17	2241	220	8%	11024 988			21	24		11,792	-	124,616
24-01 AV	10/10/2010	177	28	2209	205	14%	12498 994			21	24		11,589		122,375
24-01 AV	10/9/2010	183	27	2208	210	13%	12052 994			21	24		11,412		120,166
24-01 AV	10/8/2010	194	22	2211	216	10%		F 10		21	24		11,229	-	117,958
24-01 AV	10/7/2010	194	18	2218	212	9%		F 10		21	24		11,035		115,747
24-01 AV	10/6/2010	197	15	2240	212	7%	11371 999			21	24		10,843	-	113,529
24-01 AV	10/5/2010	199	18	2179	218	8%		F 10		20	24		10,644		111,289
24-01 AV	10/4/2010	202	12	2241	214	5%	11074 994			21	24		10,445	-	109,110
24-01 AV	10/3/2010	205	22	2246	227	10%	10957 100			21	24		10,243		106,869
24-01 AV	10/2/2010	190	25	2258	215	12%	11916 996			21	24		10,038		104,623
24-01 AV	10/1/2010	191	17	2275	209	8%	11904 997			21	24		9,848		102,365
24-01 AV	9/30/2010	208	22	2275	230	9%	10926 996			21	24		9,657	-	100,090
24-01 AV	9/29/2010	209	15	2279	224	7%	10925 998			21	24		9,449		97,815
24-01 AV	9/28/2010	205	18	2240	223	8%	10920 998			21	24		9,240		95,536
24-01 AV	9/27/2010	207	18	2261	225	8%	10925 100			21	24		9,035		93,296
24-01 AV	9/26/2010	210	15 12	2251	225	7% 6%	10742 100			21	24		8,828		91,035
24-01 AV	9/25/2010 9/24/2010	206 207	13 15	2252 2288	219 222	6% 7%	10917 100			21 21	24 24		8,618		88,784
24-01 AV	3/24/2010	207	13	2208	222	/ 70	11057 100	0 F 10	00 31	41	24		8,412	910	86,532

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24-01 AV	9/23/2010	203	22	2210	224	10%	10896 1012 F 1000 S	SI 21	24		8,205	895	84,244
24-01 AV	9/22/2010	210	25	2265	235	11%	10776 1012 F 1000 S	SI 21	24		8,002	873	82,034
24-01 AV	9/21/2010	178	23	2273	201	12%	12803 1012 F 1000 S	31 21	24		7,792	848	79,769
24-01 AV	9/20/2010	172	10	1766	182	6%	10262 1010 F 1000 S	SI 21	24		7,614	825	77,496
24-01 AV	9/19/2010	179	8	1326	187	4%	7425 1100 F 1000 S	31 21	24		7,442	815	75,730
24-01 AV	9/18/2010	208	12	1425	219	5%	6867 208 F 1000 S	31 20	23	Down 1 hour due to high vessel pressure	7,263	807	74,404
24-01 AV	9/17/2010	222	12	2334	234	5%	10515 1002 F 1000 S	SI 21	24		7,055	795	72,979
24-01 AV	9/16/2010	211	29	2377	240	12%	11250 980 F 1000 S	SI 21	24		6,833	783	70,645
24-01 AV	9/15/2010	207	20	2121	227	9%	10241		0		6,622	754	68,268
24-01 AV	9/14/2010	212	12	2148	223	5%	10150 1019 F 1000 S	SI 20	24		6,415	734	66,147
24-01 AV	9/13/2010	205	24	2157	229	10%	10499 1022 F 1000 S		24		6,203	722	63,999
24-01 AV	9/12/2010	207	10	2092	217	4%	10107 1023 F 1000 S		24		5,998	698	61,842
24-01 AV	9/11/2010	206	13	2226	220	6%	10793 1014 F 1000 S		24		5,791	688	59,750
24-01 AV	9/10/2010	200	18	2214	219	8%	11046 1015 F 1000 S		24		5,585	675	57,524
24-01 AV	9/9/2010	207	13	2235	221	6%	10777 1018 F 1000 S		24		5,385	657	55,310
24-01 AV	9/8/2010	215	12	2287	227	5%	10638 1013 F 1000 S		24		5,178	644	53,510
24-01 AV	9/7/2010	204	13	2305	217	6%	11308 1008 F 1000 S		24		·		•
24-01 AV	9/6/2010	217	17	2322	233	7%	10724 1010 F 1000 S		24		4,963	632	50,788
24-01 AV 24-01 AV	9/5/2010	217	8	2322	225	7% 4%			24		4,759	619	48,483
24-01 AV 24-01 AV		221	8	2307		4% 4%	10619 1006 F 1000 S				4,542	602	46,161
	9/4/2010				229				24		4,325	594	43,860
24-01 AV	9/3/2010	220	10	2306	230	4%	10486 1007 F 1000 S		24		4,104	586	41,553
24-01 AV	9/2/2010	211	13	2297	225	6%	10876 1006 F 1000 S		24		3,884	576	39,247
24-01 AV	9/1/2010	212	13	2332	225	6%	10993 1010 F 1000 S		24		3,673	563	36,950
24-01 AV	8/31/2010	219	13	2320	231	5%	10607 1006 F 1000 S		24		3,461	550	34,618
24-01 AV	8/30/2010	220	17	2357	237	7%	10720 1005 F 1000 S		24		3,242	537	32,298
24-01 AV	8/29/2010	204	13	2137	218	6%	10465 1005 F 1000 S		24		3,022	520	29,941
24-01 AV	8/28/2010	195	2	1990	197	1%	10206 1035 F 1000 S		24		2,818	507	27,804
24-01 AV	8/27/2010	204	9	1989	213	4%	9749 1035 F 1000 S		24		2,623	505	25,814
24-01 AV	8/26/2010	140	17	1537	157	11%	10975 1030 F 1000 S		19.5	Down 4.5 hours for wire line.	2,419	496	23,825
24-01 AV	8/25/2010	193	8	1970	202	4%	10196 1015 F 925 S		24		2,279	479	22,288
24-01 AV	8/24/2010	163	14	1679	177	8%	10277 1036 F 925 S		24		2,086	471	20,318
24-01 AV	8/23/2010	168	7	1670	175	4%	9926 1032 F 920 S		24		1,923	457	18,639
24-01 AV	8/22/2010	165	12	1610	177	7%	9780 1040 F 920 S		24		1,755	450	16,969
24-01 AV	8/21/2010	132	20	1333	151	13%	10132 1045 F 900 S		24		1,590	438	15,359
24-01 AV	8/20/2010	138	17	1367	155	11%	9908 1030 F 840 S		24		1,458	418	14,026
24-01 AV	8/19/2010	142	15	1346	157	10%	9509 1035 F 750 S		24		1,320	401	12,659
24-01 AV	8/18/2010	112	13	1161	125	10%	10392 1039 F 800 5		24		1,178	386	11,313
24-01 AV	8/17/2010	124	17	1160	141	12%	9348 1000 F 600 S		24		1,066	373	10,152
24-01 AV	8/16/2010	115	19	1103	134	14%	9561 1000 F 600 S		24		942	356	8,992
24-01 AV	8/15/2010	96	14	840	109	13%	8790 1000 F 300 S	SI 10.5	24	Blew down csg.	827	337	7,889
24-01 AV	8/14/2010	85	15	878	100	15%	10333 1010 F 660 S	SI 10.5	24		731	323	7,049
24-01 AV	8/13/2010	85	20	826	105	19%	9726 990 F 650 S	SI 11	24		646	308	6,171
24-01 AV	8/12/2010	65	10	620	75	14%	9543 1000 F 750 S	SI 8	24		561	288	5,345
24-01 AV	8/11/2010	60	28	601	88	32%	10013 1000 F 840 S	SI 8	24		496	278	4,725
24-01 AV	8/10/2010	62	13	614	76	18%	9867 990 F 875 S	SI 8	24		436	250	4,124
24-01 AV	8/9/2010	68	13	677	82	16%	9911 980 F 900 S	SI 9	24		374	237	3,510
24-01 AV	8/8/2010	65	17	633	82	20%	9747 950 F 900 S	SI 9	24		306	224	2,833
24-01 AV	8/7/2010	62	19	669	81	24%	10857 960 F 900 S	SI 10	24		241	207	2,200
24-01 AV	8/6/2010	65	33	622	98	34%	9568 920 F 850 S	SI 10	24		179	188	1,531
24-01 AV	8/5/2010	52	88	543	140	63%	10495 870 F 850 S	Si 11	21	SI 3 hours for maintenance on well head	114	155	909
24-01 AV	8/4/2010	62	67	366	129	52%	5917 840 F 850 S	SI 14	14		62	67	366





Form 3160-5 (April 2004)

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT**

### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160 - 3 (APD) for such proposals.

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

5.	Lease Serial No.
	Lease Serial No.

6. If Indian, Allottee or Tribe Name

	 	 	 _	

SUBMIT IN TR	7. If Unit or CA/Agreement, Name and/or No.					
1. Type of Well ✓ Oil Well □ □	8. Well Name and No.					
2. Name of Operator Wolverine G	Wolverine Federal Arapien Valley 24-1  9. API Well No.					
3a. Address 55 Campau NW, Grand Rapid	ls, MI 49503	3b. Phone No. (include 616-458-1150	e area code)	43-039-30030  10. Field and Pool, or Exploratory Area		
4. Location of Well (Footage, Sec., 2331' FNL, 549' FWL, Sec. 24	Wildcat  11. County or Parish, State  Sanpete County, Utah					
12. CHECK A	PPROPRIATE BOX(ES) T	O INDICATE NATUR	RE OF NOTICE, F	REPORT, OR OTHER DATA		
TYPE OF SUBMISSION		TY	PE OF ACTION			
Notice of Intent  ✓ Subsequent Report  ☐ Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (St Reclamation Recomplete Temporarily A Water Disposal	Well Integrity  ✓ Other Activity Update  bandon		

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Wolverine Federal Arapien Valley 24-1 was shut-in for a pressure build up analysis on February 22, 2011 which concluded 202 days of testing while producing 37,781 BO and 438 MMCF of gas. Two pressure bombs were lowered into the well prior to shut-in and will be removed from the well after 450 hours of shut-in time. The well will remain shut-in indefinitely until Wolverine completes its analysis of the testing and build up data and presents it to the Board of Oil, Gas and Mining. At this point the Board will make its determination regarding the associated oil well gas. The tubing and packer will also be pulled in the near future for inspection and to repair a leak in the packer. Attached is the production data covering the duration of the permitted testing period.

MAR 1 4 2011

### Richfield BI M Field Office

		1/1/41111	Old DEAM I love our
14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)			
Matthew Rivers	Title	Production Engineer	
Signature Wall	Date	03/10/2011	
THIS SPACE FOR FEDERAL	OR	STATE OFFICE USE	
Approved by		Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrar certify that the applicant holds legal or equitable title to those rights in the subject lea which would entitle the applicant to conduct operations thereon.		Office	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any States any false, fictitious or fraudulent statements or representations as to any matter	person within	knowingly and willfully to make to a its jurisdiction.	ny department or agency of the United
(Instructions on page 2) REC	E۱	/ED	. ,

MAR 2 4 2011

Surpry # 1/52400375

**Accepted For Record Purposes** 

DIV. OF OIL, GAS & MINING

#### **GENERAL INSTRUCTIONS**

This form is designed for submitting proposals to perform certain well operations, and reports of such operations when completed, as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this

form and the number of copies to be submitted, particularly with regard to local area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from the local Federal office.

### SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or

present productive zones, or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to top of any left in the hole; method of closing top of well and date well site conditioned for final inspection looking to approval of the abandonment.

#### NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

**EFFECT OF NOT PROVIDING THE INFORMATION:** Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

This information is being collected to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

#### **BURDEN HOURS STATEMENT**

Public reporting burden for this form is estimated to average 25 minutes per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer, (WO-630), Mail Stop 401 LS, 1849 C St., N.W., Washington D.C. 20240

Wolverine Federal Arapien Valley 24-1

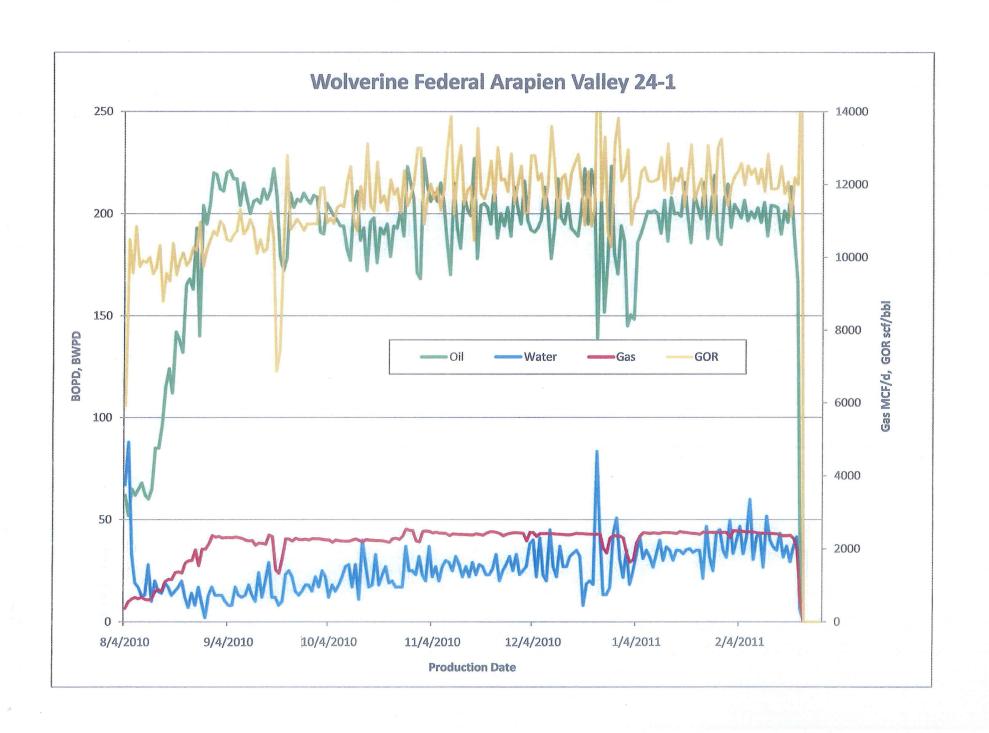
e: -1.161	B-4-	0.1		_			, euci	ai Ai	ap		u 110C	y 2	·	_
FieldName	Date	Oil	Water	Gas		Water-Cut	GOR							Comments
24-01 AV	2/28/2011	0	0	0	0	0%	0			1160		0	0	SI for PBU
24-01 AV	2/27/2011	0	0	0	0	0%	0			1160		0	0	SI for PBU
24-01 AV	2/26/2011	0	0	0	0	0%	0			1150		0	0	SI for PBU
24-01 AV	2/25/2011	0	0	0	0	0%	0			1150		0	0	SI for PBU
24-01 AV	2/24/2011	0	0	0	0	0%	0	1172	SI	1150	SI	0	0	
24-01 AV	2/23/2011	0	0	0	0	0%	0	1173	SI	1150	SI	23	0	SI for PBU
24-01 AV	2/22/2011	38.37	6.23	602	45	14%	15689	1028	F	1090	SI	23	5.5	SI for PBU
24-01 AV	2/21/2011	166.57	41.63	1998	208	20%	11995	935	F	1050	SI	23	21	
24-01 AV	2/20/2011	187.87	36.64	2288	225	16%	12179	928	F	1050	SI	23	24	
24-01 AV	2/19/2011	213.21	29.37	2371	243	12%	11120	930	F	1050	SI	23	24	
24-01 AV	2/18/2011	195.76	37.03	2363	233	16%	12071	931	F	1050	SI	23	24	
24-01 AV	2/17/2011	201.23	31.64	2363	233	14%	11743	931	F	1050	SI	23	24	
24-01 AV	2/16/2011	189.89	43.3	2373	233	19%	12497	932	F	1050	SI	24	24	
24-01 AV	2/15/2011	202.84	34.98	2416	238	15%	11911			1050		24	24	
24-01 AV	2/14/2011	203.78	36.69	2419	240	15%	11871			1050		24	24	
24-01 AV	2/13/2011	204.03	39.98	2423	244	16%	11876		F	1050		24	24	
24-01 AV	2/12/2011	189.09	51.68	2427	241	21%	12835			1050		24	24	
24-01 AV	2/11/2011	205.49	26.69	2427	232	11%	11811			1050		24	24	
24-01 AV	2/10/2011	195.72	43.29	2431	239	18%	12421			1050		24	24	
24-01 AV	2/9/2011	202.81	41.68	2438	244	17%	12021			1050		24	24	
24-01 AV	2/8/2011	197.87	30.44	2460	228	13%	12432			1050			24	
24-01 AV	2/7/2011	200.81	59.95	2465	261	23%	12275			1050		24 24	24	
24-01 AV	2/6/2011	196.53	41.63	2461	238	17%	12522			1050		24	24 24	
24-01 AV	2/5/2011	206.64	33.31	2476	240									
24-01 AV	2/4/2011					14%	11982			1050		24	24	
		197.85	46.67	2490	245	19%	12585		F	1050		24	24	
24-01 AV	2/3/2011	201.53	40.01	2490	242	17%	12355		F	1050		24	24	
24-01 AV	2/2/2011	204.53	33.4	2499	238	14%	12218			1050		24	24	
24-01 AV	2/1/2011	193.29	49.64	2314	243	20%	11972			1050		23	24	
24-01 AV	1/31/2011	214.48	31.61	2448	246	13%	11414			1050		23	24	
24-01 AV	1/30/2011	207.43	35.01	2451	242	14%	11816		F	1050		23	24	
24-01 AV	1/29/2011	184.9	45.08	2450	230	20%	13250			1050		23	24	
24-01 AV	1/28/2011	188.28	43.57	2452	232	19%	13023			1050		23	24	
24-01 AV	1/27/2011	218.76	25.01	2451	244	10%	11204	942	F	1050		23	24	
24-01 AV	1/26/2011	202.83	31.67	2452	235	14%	12089		F	1050		23	24	
24-01 AV	1/25/2011	187.84	46.71	2456	235	20%	13075			1050		23	24	
24-01 AV	1/24/2011	215.37	21.29	2460	237	9%	11422			1050		23	24	
24-01 AV	1/23/2011	197.43	34.99	2400	232	15%	12156	944	F	1020	SI	23	24	
24-01 AV	1/22/2011	203.2	35.01	2417	238	15%	11895			1020		23	24	
24-01 AV	1/21/2011	209.57	34.01	2424	244	14%	11567	930	F	1020	SI	23	24	
24-01 AV	1/20/2011	185.77	35.81	2433	222	16%	13097	931	F	1030	SI	23	24	
24-01 AV	1/19/2011	199.44	35.25	2446	235	15%	12264	933	F	1000	SI	23	24	
24-01 AV	1/18/2011	215.42	33.3	2455	249	13%	11396	932	F	1000	SI	23	24	
24-01 AV	1/17/2011	198.67	34.97	2473	234	15%	12448	891	F	1000	SI	25	24	
24-01 AV	1/16/2011	200.29	35.01	2423	235	15%	12097	826	F	1000	SI	25	24	
24-01 AV	1/15/2011	199.96	30	2435	230	13%	12177	827	F	1000	SI	25	24	
24-01 AV	1/14/2011	207.84	35.02	2443	243	14%	11754	824	F	1000	SI	25	24	
24-01 AV	1/13/2011	186.53	36.75	2448	223	16%	13124	828	F	1000	SI	25	24	
24-01 AV	1/12/2011	206.62	29.97	2447	237	13%	11843	829	F	1000	SI	25	24	
24-01 AV	1/11/2011	190.34	39.97	2425	230	17%	12740	835	F	1000	SI	24	24	
24-01 AV	1/10/2011	199.87	33.32	2428	233	14%	12148	834	F	1000	SI	24	24	
24-01 AV	1/9/2011	201.62	26.67	2441	228	12%	12107	839	F	1000	SI	24	24	

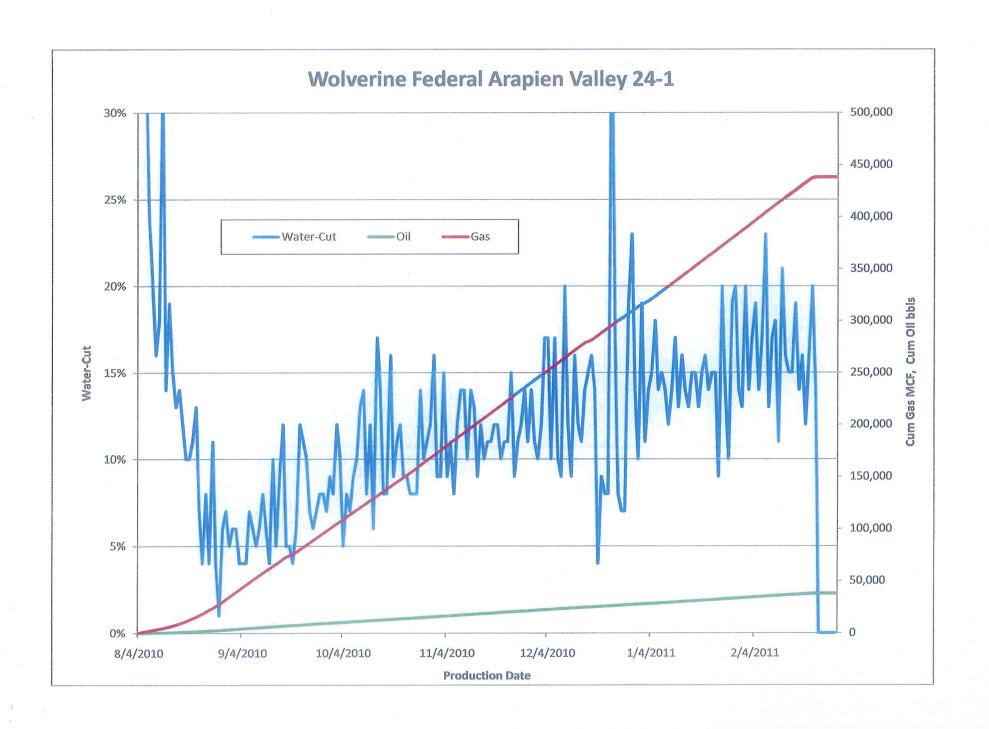
Cum Oil	Cum Water	Cum Gas
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,781	5,272	437,859
37,743	5,266	437,257
37,577		
37,389	5,224 5,187	435,259 432,971
37,175		-
	5,158	430,600
36,980	5,121	428,237
36,778	5,089	425,874
36,589	5,046	423,501
36,386	5,011	421,085
36,182	4,974	418,666
35,978	4,934	416,243
35,789	4,883	413,816
35,583	4,856	411,389
35,388	4,813	408,958
35,185	4,771	406,520
34,987	4,741	404,060
34,786	4,681	401,595
34,590	4,639	399,134
34,383	4,606	396,658
34,185	4,559	394,168
33,984	4,519	391,678
33,779	4,486	389,179
33,586	4,436	386,865
33,371	4,404	384,417
33,164	4,369	381,966
32,979	4,324	379,516
32,791	4,281	377,064
32,572	4,256	374,613
32,369	4,224	372,161
32,181	4,177	369,705
31,966	4,156	367,245
31,768	4,121	364,845
31,565	4,086	362,428
31,356	4,052	360,004
31,170	4,016	357,571
30,970	3,981	355,125
30,755	3,948	352,670
30,556	3,913	350,197
30,356	3,878	347,774
30,156	3,848	345,339
29,948	3,813	342,896
29,762	3,776	340,448
29,555	3,746	338,001
29,365	3,706	335,576
29,165	3,673	333,148

24-01 AV	1/8/2011	200.73	31.68	2424	232	14%	12076 84	4 F	1000 SI	24	24		-	28,963	3,646	330,707
24-01 AV	1/7/2011	201.16	35.04	2436	236	15%	12110 84	8 F	1000 SI	24	24			28,763	3,614	328,283
24-01 AV	1/6/2011	195.85	30.96	2442	227	14%	12469 85	i F	1000 SI	24	24			28,561	3,579	325,847
24-01 AV	1/5/2011	190.27	41.26	2351	232	18%	12356 86	5 F	1000 SI	24	24			28,366	3,548	323,405
24-01 AV	1/4/2011	186.21	33.31	2170	220	15%	11654 89	F	1000 SI	23	24			28,175	3,507	321,054
24-01 AV	1/3/2011	148.23	25.01	1701	173	14%	11475 97		1000 SI	19	24			27,989	3,474	318,884
24-01 AV	1/2/2011	150.42	18.33	1640	169	11%	10903 97	1 F	1000 SI	19	24			7,841	3,449	317,183
24-01 AV	1/1/2011	144.97	35.01	1879	180	19%	12961 94	) F	950 SI	21	22	Down due to mechanical problems		7,690	3,430	315,543
24-01 AV	12/31/2010	186.55	21.71	2294	208	10%	12297 929	) F		24	24			27,545	3,395	313,664
24-01 AV	12/30/2010	194.17	30.38	2348	225	14%	12093 86			24	24			27,359	3,374	311,370
24-01 AV	12/29/2010	170.3	50.73	2353	221	23%	13817 86	F		24	24			7,165	3,343	309,022
24-01 AV	12/28/2010	180.45	43.29	2367	224	19%	13117 86		980 SI	24	24			26,994	3,293	306,669
24-01 AV	12/27/2010	223.2	16.7	2297	240	7%	10291 86		1000 SI	24	24			6,814	3,249	304,302
24-01 AV	12/26/2010	176.68	13.33	1888	190	7%	10686 91		1000 SI	22	22	Mechanical problems		.6,591	3,233	302,005
24-01 AV	12/25/2010	151.7	13.3	2019	165	8%			1000 SI	24	18	Mechanical problems		26,414	3,219	300,117
24-01 AV	12/24/2010	207.78	41.63	2401	249	17%	11555 84	3 F	1000 SI	24	24			6,262	3,206	298,098
24-01 AV	12/23/2010	139.1	83.35	2404	222	37%	17283 856		1000 SI	24	24			6,055	3,164	295,697
24-01 AV	12/22/2010	212.02	18.35	2402	230	8%	11329 850		1000 SI	24	24			.5,916	3,081	293,293
24-01 AV	12/21/2010	221.54	20.07	2407	242	8%	10865 85		1000 SI	24	24			25,703	3,063	290,891
24-01 AV	12/20/2010	194.95	18.59	2409	214	9%			1000 SI	24	24			.5,763 !5,482	3,043	288,484
24-01 AV	12/19/2010	222	8	2418	230	4%			1000 SI	24	24			25,287	3,024	286,075
24-01 AV	12/18/2010	201	32	2419	233	14%			1000 SI	24	24			5,065	3,016	283,657
24-01 AV	12/17/2010	189	35	2426	224	16%			1000 SI	24	24			4,864	2,984	281,238
24-01 AV	12/15/2010	193	32	2384	225	14%			1000 SI	24	24			4,675	2,949	278,812
24-01 AV	12/14/2010	205	27	2385	232	11%	11613 87	F	1000 SI	24	24			4,482	2,917	276,428
24-01 AV	12/13/2010	195	27	2394	222	12%	12277 87	l F	1000 SI	24	24			4,277	2,890	274,043
24-01 AV	12/12/2010	198	37	2403	234	16%	12150 87	2 F	1010 SI	24	24			4,082	2,863	271,649
24-01 AV	12/11/2010	217	22	2406	239	9%	11086 87	3 F	1010 Si	24	24			3,884	2,826	269,246
24-01 AV	12/10/2010	193	27	2415	220	12%	12492 87	5 F	1010 SI	24	24			3,667	2,804	266,840
24-01 AV	12/9/2010	178	45	2418	223	20%	13600 87	ŝ F	1010 SI	24	24			3,474	2,777	264,425
24-01 AV	12/8/2010	202	20	2422	222	9%	11984 87	3 F	1010 Sf	24	24		2	3,296	2,732	262,007
24-01 AV	12/7/2010	213	23	2420	237	10%	11347 879	F	1010 SI	24	24			3,094	2,712	259,585
24-01 AV	12/6/2010	197	41	2419	237	17%	12307 88	3 F	1010 Si	24	24		2	2,881	2,689	257,165
24-01 AV	12/5/2010	193	22	2342	215	10%	12118 89	2 F	1010 St	23	24		2	2,684	2,648	254,746
24-01 AV	12/4/2010	191	40	2447	231	17%	12795 88	F	1010 SI	24	24		2	2,491	2,626	252,404
24-01 AV	12/3/2010	192	38	2450	230	17%	12792 88	2 F	1010 SI	24	24		2	2,300	2,586	249,957
24-01 AV	12/2/2010	197	27	2219	224	12%	11237 88	5 F	1000 SI	24	23	Down for scada test	2	2,108	2,548	247,507
24-01 AV	12/1/2010	216	25	2425	241	10%	11217 87	3 F	1025 SI	24	24		2	1,911	2,521	245,288
24-01 AV	11/30/2010	195	23	2439	218	11%			1025 SI	24	24		2	1,695	2,496	242,863
24-01 AV	11/29/2010	203	33	2442	237	14%	12017 88		1025 SI	24	24		2	1,500	2,473	240,424
24-01 AV	11/28/2010	213	25	2440	238	11%	11463 88		1025 SI	24	24		2	1,297	2,440	237,982
24-01 AV	11/27/2010	189	32	2425	220	14%	12844 88	7 F	1025 SI	24	24		2	1,084	2,415	235,542
24-01 AV	11/26/2010	203	28	2399	232	12%	11806 89		1025 SI	24	24		2	0,895	2,383	233,117
24-01 AV	11/25/2010	194	25	2360	219	11%	12152 91		1025 SI	24	24		2	0,692	2,355	230,718
24-01 AV	11/24/2010	200	20	2423	220	9%	12116 92		1025 SI	24	24		2	0,498	2,330	228,358
24-01 AV	11/23/2010	188	33	2451	222	15%	13014 89		1025 SI	24	24		2	0,298	2,310	225,935
24-01 AV	11/22/2010	214	26	2469	240	11%	11536 889		1025 SI	24	24			0,110		223,484
24-01 AV	11/21/2010	195	23	2466	218	11%	12644 89		1025 SI	24	24			9,896		221,015
24-01 AV	11/20/2010	203	23	2430	226	10%			1025 SI	24	24			9,701		218,549
24-01 AV 24-01 AV	11/19/2010	205 204	27 28	2378 2395	232	12%			1025 SI	23	24			9,498		216,119
24-01 AV 24-01 AV	11/18/2010 11/17/2010	204 178	28 23	2395 2415	232 201	12%			1025 SI	23	24			9,293		213,741
24-01 AV 24-01 AV	11/1//2010	227	23 29	2415	201 257	11% 11%	13546 90° 10467 91°		1025 SI	23 23	24 24			9,089	-	211,346
7-1 OT W4	11, 10, 2010	221	23	~~01	231	11/0	1040/ 31	. г	1023 31	43	24		1	8,911	2,127	208,931

24-01 AV	11/15/2010	199	22	2383	221	10%	11959 917	F 1	.025 SI	23	24		18,684	2,098	206,550
24-01 AV	11/14/2010	202	27	2389	228	12%	11854 922	F 1	.025 SI	23	24		18,485	2,076	204,167
24-01 AV	11/13/2010	209	22	2395	231	9%	11448 922	F 1	.025 St	23	24		18,283	2,049	201,778
24-01 AV	11/12/2010	183	28	2397	212	13%	13071 922	F 1	.025 SI	23	24		18,074	2,027	199,383
24-01 AV	11/11/2010	193	32	2404	225	14%	12442 923	F 1	.025 SI	23	24		17,891	1,999	196,986
24-01 AV	11/10/2010	215	25	2408	240	10%	11179 926	F 1	.025 SI	23	24		17,698	1,967	194,582
24-01 AV	11/9/2010	170	29	2364	199	14%	13870 928	F 1	.025 SI	23	23	Down 1 hr for maint.	17,483	1,942	192,174
24-01 AV	11/8/2010	186	30	2424	216	14%	13019 926	. F 1	.025 SI	23	24		17,313	1,913	189,810
24-01 AV	11/7/2010	205	27	2430	232	12%	11879 930	F 1	.025 SI	23	24		17,127	1,883	187,386
24-01 AV	11/6/2010	215	20	2432	235	8%	11295 931	F 1	.025 Sł	23	24		16,922	1,856	184,956
24-01 AV	11/5/2010	206	27	2455	233	11%	11905 929	F 1	.025 SI	23	24		16,707	1,836	182,524
24-01 AV	11/4/2010	210	22	2435	231	9%	11618 935	F 1	.025 SI	23	24		16,501	1,809	180,069
24-01 AV	11/3/2010	206	37	2477	243	15%	12010 931	. F 1	.025 SI	23	24		16,291	1,787	177,634
24-01 AV	11/2/2010	214	20	2488	234	9%	11631 932	F 1	.025 SI	23	24		16,085	1,750	175,157
24-01 AV	11/1/2010	227	23	2475	250	9%	10918 932			23	24		15,871	1,730	172,669
24-01 AV	10/31/2010	168	32	2188	200	16%	12998 951	. F 1	.025 SI	22	21	SI due to tank room	15,644	1,707	170,194
24-01 AV	10/30/2010	171	23	2219	194	12%	12996 938			23	20		15,476	1,675	168,006
24-01 AV	10/29/2010	207	25	2497	232	11%	12060 938	F 1	.025 SI	23	24		15,305	1,652	165,787
24-01 AV	10/28/2010	215	25	2508	240	10%	11669 938	F 1	.025 SI	23	24		15,098	1,627	163,290
24-01 AV	10/27/2010	223	37	2545	259	14%	11420 932	F 1	.025 SI	23	24		14,883	1,602	160,782
24-01 AV	10/26/2010	189	17	2343	206	8%	12383 946	F 1	.025 SI	23	23	SI for maintanance	14,660	1,565	158,237
24-01 AV	10/25/2010	202	17	2261	218	8%	11216 976		.025 SI	21	24		14,471	1,548	155,894
24-01 AV	10/24/2010	193	17	2290	209	8%	11894 973	F 1	.025 SI	21	24		14,269	1,531	153,633
24-01 AV	10/23/2010	194	20	2277	214	9%	11725 977			21	24		14,076	1,514	151,343
24-01 AV	10/22/2010	179	19	2177	198	9%	12131 875		.025 SI	21	24		13,882	1,494	149,066
24-01 AV	10/21/2010	195	27	2198	221	12%	11293 979		.025 SI	21	23		13,703	1,475	146,889
24-01 AV	10/20/2010	190	23	2216	212	11%	11692 984			21	24		13,508	1,448	144,691
24-01 AV	10/19/2010	193	18	2222	212	9%	11500 986		.025 SI	21	24		13,318	1,425	142,475
24-01 AV	10/18/2010	176	33	2225	210	16%	12621 986		.025 SI	21	24		13,125	1,407	140,253
24-01 AV	10/17/2010	198	18	2233	217	8%			.025 SI	21	24		12,949	1,374	138,028
24-01 AV	10/16/2010	196	17	2239	213	8%	11407 987		.025 SI	21	24		12,751	1,356	135,795
24-01 AV	10/15/2010	172	28	2253	200	14%	13122 998			21	24		12,555	1,339	133,556
24-01 AV	10/14/2010	193	40	2187	233	17%	11320 984			21	24		12,383	1,311	131,303
24-01 AV	10/13/2010	187	11	2231	198	6%	11952 100			21	24		12,190	1,271	129,116
24-01 AV	10/12/2010	211	28	2269	240	12%	10731 997			21	24		12,003	1,260	126,885
24-01 AV	10/11/2010	203	17	2241	220	8%	11024 988		.025 SI	21	24		11,792	1,232	124,616
24-01 AV	10/10/2010	177	28	2209	205	14%			025 SI	21	24		11,589	1,215	122,375
24-01 AV	10/9/2010	183	27	2208	210	13%	12052 994			21	24		11,412	1,187	120,166
24-01 AV	10/8/2010	194	22	2211	216	10%	11387 995		050 SI	21	24		11,229	1,160	117,958
24-01 AV	10/7/2010	194	18	2218	212	9%	11445 996			21	24		11,035	1,138	115,747
24-01 AV	10/6/2010	197	15	2240	212	7%	11371 999		025 SI	21	24		10,841	1,120	113,529
24-01 AV	10/5/2010	199	18	2179	218	8%	10937 997			20	24		10,644	1,105	111,289
24-01 AV	10/4/2010	202	12	2241	214	5%	11074 994			21	24		10,445	1,087	109,110
24-01 AV	10/3/2010	205	22	2246	227	10%	10957 100			21	24		10,243	1,075	106,869
24-01 AV	10/2/2010	190	25	2258	215	12%	11916 996			21	24		10,038	1,053	104,623
24-01 AV	10/1/2010	191	17	2275	209	8%	11904 997			21	24		9,848	1,028	102,365
24-01 AV	9/30/2010	208	22	2275	230	9%	10926 996			21	24		9,657	1,011	100,090
24-01 AV	9/29/2010	209	15	2279	224	7%	10925 998			21	24		9,449	989	97,815
24-01 AV	9/28/2010	205	18	2240	223	8%	10920 998			21	24		9,240	974	95,536
24-01 AV	9/27/2010	207	18 15	2261	225 225	8% 7%	10925 100 10742 100			21	24		9,035	956	93,296
24-01 AV 24-01 AV	9/26/2010 9/25/2010	210 206	15 13	2251 2252	225	7% 6%	10742 100			21	24		8,828	938	91,035
24-01 AV 24-01 AV	9/25/2010	206	15 15	2232	219	5% 7%	11057 100			21 21	24 24		8,618	923	88,784
24-01 WA	3/24/2010	207	13	2200	222	/70	1103/ 100	. r 1	1000 31	4.1	24		8,412	910	86,532

24-01 AV	9/23/2010	203	22	2210	224	10%	10896 1012 F 1000 SI	21	24		8,205	895	84,244
24-01 AV	9/22/2010	210	25	2265	235	11%	10776 1012 F 1000 SI	21	24		8,002	873	82,034
24-01 AV	9/21/2010	178	23	2273	201	12%	12803 1012 F 1000 SI	21	24		7,792	848	79,769
24-01 AV	9/20/2010	172	10	1766	182	6%	10262 1010 F 1000 SI	21	24		7,614	825	77,496
24-01 AV	9/19/2010	179	8	1326	187	4%	7425 1100 F 1000 SI	21	24		7,442	815	75,730
24-01 AV	9/18/2010	208	12	1425	219	5%	6867 208 F 1000 SI	20	23	Down 1 hour due to high vessel pressure	7,263	807	74,404
24-01 AV	9/17/2010	222	12	2334	234	5%	10515 1002 F 1000 SI	21	24		7,055	795	72,979
24-01 AV	9/16/2010	211	29	2377	240	12%	11250 980 F 1000 SI	21	24		6,833	783	70,645
24-01 AV	9/15/2010	207	20	2121	227	9%	10241		0		6,622	754	68,268
24-01 AV	9/14/2010	212	12	2148	223	5%	10150 1019 F 1000 SI	20	24		6,415	734	66,147
24-01 AV	9/13/2010	205	24	2157	229	10%	10499 1022 F 1000 SI	20	24		6,203	722	63,999
24-01 AV	9/12/2010	207	10	2092	217	4%	10107 1023 F 1000 SI	20	24		5,998	698	61,842
24-01 AV	9/11/2010	206	13	2226	220	6%	10793 1014 F 1000 SI	20	24		5,791	688	59,750
24-01 AV	9/10/2010	200	18	2214	219	8%	11046 1015 F 1000 SI	21	24		5,585	675	57,524
24-01 AV	9/9/2010	207	13	2235	221	6%	10777 1018 F 1000 SI	21	24		5,385	657	55,310
24-01 AV	9/8/2010	215	12	2287	227	5%	10638 1013 F 1000 SI	21	24		5,178	644	53,075
24-01 AV	9/7/2010	204	13	2305	217	6%	11308 1008 F 1000 SI	21	24		4,963	632	50,788
24-01 AV	9/6/2010	217	17	2322	233	7%	10724 1010 F 1000 SI	21	24		4,759	619	48,483
24-01 AV	9/5/2010	217	8	2301	225	4%	10619 1006 F 1000 SI	21	24		4,542	602	46,161
24-01 AV	9/4/2010	221	8	2307	229	4%	10446 1008 F 1000 SI	21	24		4,325	594	43,860
24-01 AV	9/3/2010	220	10	2306	230	4%	10486 1007 F 1000 S	21	24		4,104	586	41,553
24-01 AV	9/2/2010	211	13	2297	225	6%	10876 1006 F 1000 SI	21	24		3,884	576	39,247
24-01 AV	9/1/2010	212	13	2332	225	6%	10993 1010 F 1000 SI	101	24		3,673	563	36,950
24-01 AV	8/31/2010	219	13	2320	231	5%	10607 1006 F 1000 SI	21	24		3,461	550	34,618
24-01 AV	8/30/2010	220	17	2357	237	7%	10720 1005 F 1000 SI	21	24		3,242	537	32,298
24-01 AV	8/29/2010	204	13	2137	218	6%	10465 1005 F 1000 SI	21	24		3,022	520	29,941
24-01 AV	8/28/2010	195	2	1990	197	1%	10206 1035 F 1000 SI	20	24		2,818	507	27,804
24-01 AV	8/27/2010	204	9	1989	213	4%	9749 1035 F 1000 SI	20	24		2,623	505	25,814
24-01 AV	8/26/2010	140	17	1537	157	11%	10975 1030 F 1000 SI	20	19.5	Down 4.5 hours for wire line.	2,419	496	23,825
24-01 AV	8/25/2010	193	8	1970	202	4%	10196 1015 F 925 SI	18	24		2,279	479	22,288
24-01 AV	8/24/2010	163	14	1679	177	8%	10277 1036 F 925 SI	16	24		2,086	471	20,318
24-01 AV	8/23/2010	168	7	1670	175	4%	9926 1032 F 920 SI	16	24		1,923	457	18,639
24-01 AV	8/22/2010	165	12	1610	177	7%	9780 1040 F 920 SI	16	24		1,755	450	16,969
24-01 AV	8/21/2010	132	20	1333	151	13%	10132 1045 F 900 SI	14	24		1,590	438	15,359
24-01 AV	8/20/2010	138	17	1367	155	11%	9908 1030 F 840 Si	14	24		1,458	418	14,026
24-01 AV	8/19/2010	142	15	1346	157	10%	9509 1035 F 750 SI	14	24		1,320	401	12,659
24-01 AV	8/18/2010	112	13	1161	125	10%	10392 1039 F 800 SI	13	24		1,178	386	11,313
24-01 AV	8/17/2010	124	17	1160	141	12%	9348 1000 F 600 SI	13	24		1,066	373	10,152
24-01 AV	8/16/2010	115	19	1103	134	14%	9561 1000 F 600 SI	13	24		942	356	8,992
24-01 AV	8/15/2010	96	14	840	10 <del>9</del>	13%	8790 1000 F 300 SI	10.5	24	Blew down csg.	827	337	7,889
24-01 AV	8/14/2010	85	15	878	100	15%	10333 1010 F 660 SI	10.5	24		731	323	7,049
24-01 AV	8/13/2010	85	20	826	105	19%	9726 990 F 650 SI	11	24		646	308	6,171
24-01 AV	8/12/2010	65	10	620	75	14%	9543 1000 F 750 SI	8	24		561	288	5,345
24-01 AV	8/11/2010	60	28	601	88	32%	10013 1000 F 840 SI	8	24		496	278	4,725
24-01 AV	8/10/2010	62	13	614	76	18%	9867 990 F 875 SI	8	24		436	250	4,124
24-01 AV	8/9/2010	68	13	677	82	16%	9911 980 F 900 SI	9	24		374	237	3,510
24-01 AV	8/8/2010	65	17	633	82	20%	9747 950 F 900 SI	9	24		306	224	2,833
24-01 AV	8/7/2010	62	19	669	81	24%	10857 960 F 900 SI	10	24		241	207	2,200
24-01 AV	8/6/2010	65	33	622	98	34%	9568 920 F 850 SI	10	24	SIRL 6 STATE OF THE STATE OF TH	179	188	1,531
24-01 AV	8/5/2010	52	88	543	140	63%	10495 870 F 850 SI	11	21	SI 3 hours for maintenance on well head	114	155	909
24-01 AV	8/4/2010	62	67	366	129	52%	5917 840 F 850 SI	14	14		62	67	366





Form 3160-5 (April 2004)

### UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

5.	Lease Serial No.
	UTU-80907

6. If Indian, Allottee or Tribe Name

abandoned no	abandoned Well. Ode Form 6700 6 (A. b.) for each proposals.										
SUBMIT IN TR	7. If Unit or CA/Agreement, Name and/or No.  Wolverine Unit  8. Well Name and No.										
1. Type of Well Oil Well □ □											
2. Name of Operator Wolverine G	as and Oil Company of Uta	h, LLC		Wolverine Federal Arapien Valley 24-1  9. API Well No.							
3a. Address 55 Campau NW, Grand Rapid		2-30030 and Pool, or Exploratory Area									
4. Location of Well (Footage, Sec., 2331' FNL, 549' FWL, Sec. 24	Wildcat  11. County or Parish, State  Sanpete County, Utah										
12. CHECK AI	PPROPRIATE BOX(ES) T	TO INDICATE NATUR	RE OF NOTICE, R	EPORT, O	R OTHER DATA						
TYPE OF SUBMISSION		TYI	PE OF ACTION								
Notice of Intent  ✓ Subsequent Report  ☐ Final Abandonment Notice	Acidize Alter Casing Casing Repair Change Plans Convert to Injection	Deepen Fracture Treat New Construction Plug and Abandon Plug Back	Production (Standard Reclamation Recomplete Temporarily Al	bandon	Water Shut-Off  Well Integrity  ✓ Other Install New Packer						

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

The Wolverine Federal Arapien Valley 24-1 packer assembly was replaced and the work concluded on 9/20/2011. Surface pressure was noted on the backside during shut-in and the packer was consequently pulled for replacement and observation. The seals on the pulled packer had clearly failed due to exposure to CO2. A new packer with CO2 approved seals was run and set above the producing interval at 8751'. The well is currently shut-in until further notice.

### OCT 07 2011

DIV. OF OIL, GAS & MINING

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)		
Matthew Rivers	Title Production	Engineer
Signature MAL	Date	10/05/2011
THIS SPACE FOR FED	ERAL OR STATE O	FFICE USE
Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not certify that the applicant holds legal or equitable title to those rights in the su which would entitle the applicant to conduct operations thereon.		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime	for any person knowingly an	d willfully to make to any department or agency of the Unite

States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)



Ground Elevation: 5,554

KB Elevation: 5,580' 120' 2017' TOC 2990' X Nipple 8712' On off tool Pkr 8751' XN Nipple 8755' 8854' - 8948' Squeezed 8998' - 9019' 9019' - 9020' 9104' - 9222' Squeezed PBTD 9,235' > 9,245' < 9950' (Stg tool) 10,373 PBTD 12,260' >12.270'< 12290' - 12316' PBTD 12,359' 12373' - 12380 PBTD 12,620' 12,755'

TD =13,050' KB

Wolverine Federal Arapien Valley 24-1 Providence Field API # 43-039-30030 Section 24, T20S, R1E Sanpete County, Utah

### (Not to Scale)

#### **Vertical Well**

Surface: 2331' FNL 549' FWL, SW NW, 24-20S-1E

Total Depth (Estimated): 2383' FNL 617' FWL, SW NW, 24-20S-1E

#### Conductor Casing (10/3/07)

Size: 24", 0.25" wall in 32' hole

Depth Landed: 120' KB

Cement Data: Cemented to surface with 8 yds redi-mix

#### Surface Casing (11/14/07)

Size/Wt/Grade: 13 3/8", 68#, J-55, BTC, in 17.5" hole

Depth Landed: 2017' KB

Cement Data: 405 sks CBM Light (10.5 ppg, 4.14 cf/sk), 410 sks Type III (14.8

ppg, 1.33 cf/sk), Cemented to surface

#### Intermediate Casing (1/21/08)

Size/Wt/Grade: 9-5/8", 4737' of 53# HCP-110 and 5636' of 47# HCL-80,

LTC, 8rd in 12.5" hole Depth Landed: 10,373' KB

Cement Data: 2620 sks foamed Elastiseal (14.3 ppg, 1.48 cf/sk)

630 sks non-foamed Elastiseal (14.3 ppg, 1.48 cf/sk) Note: N2 break-through and foamed cement to surface.

#### Production Casing (2/27/08)

Size/Wt/Grade: 5-1/2", 20#, P-110, LTC, 8rd

Properties: 12,640 psi burst, 4.653" drift, 4.778" ID, 0.0221 Bbl/ft Capacity

Depth Landed: 12,755' KB,

Stage tool @ 9950' KB, Marker Joint @ 12,110'- 12,125.5'

Cement Data: Stage 1 - 735 sks 50:50 Poz-Premium (12.5 ppg, 1.85 cf/sk)

Stage 2 - 1635 sks Class G (15.5 ppg, 1.20 cf/sk)

#### Navajo1 Perforations

8998' - 9019' MD (8997' - 9018' TVD) 21' 126 holes

9019' - 9020' MD (9018' - 9020' TVD) 1' 6 holes

8854'- 8860' MD (8853'- 8859' TVD), 6' 18 holes (squeezed)

8865'- 8871' MD (8864'- 8870' TVD), 6' 18 holes (squeezed)

8881'- 8883' MD (8880'- 8882' TVD), 2' 6 holes (squeezed)

8904'- 8914' MD (8903'- 8913' TVD), 10' 30 holes (squeezed) 8920'- 8922' MD (8919'- 8921' TVD), 2' 6 holes (squeezed)

8942'- 8948' MD (8941'- 8947' TVD), 6' 18 holes (squeezed)

9104'- 9131' MD (9103'- 9130' TVD), 27' 162 holes (squeezed)

9145'- 9154' MD (9144'- 9153' TVD), 9' 54 holes (squeezed)

1430' 9134' MD (9144-9135' TVD), 9 34 110les (squeezeu)

9160'- 9166' MD (9159'- 9165' TVD), 6' 36 holes (squeezed)

9217'- 9222' MD (9216'- 9221' TVD), 5' 30 holes (squeezed)

#### Navajo2 Perforations

12,290' – 12,316' MD (12,287' – 12,313' TVD), 26' 156 holes (below CIBP)

12,373' - 12,380' MD (12,370' - 12,377' TVD), 7' 42 holes (below CIBP)

#### Tubing 9/18/2011

X-Nipple 8

8712' KB (2.313" ID)

Arrowset 1X 8748' KB

0740 KB

XN Nipple 8755' KB (2.313" ID)

End of BHA 8759' KB

#### **PBTD**

(7/11/10) 9,235' - 2 sacks cement on CIBP @ 9.245'

(4/29/08) 12,359' - 2 sacks cement on CIBP @ 12,369'

(4/12/08) 12,620' - CBL tag



Wolverine Federal Arapien Valley 24-1 Providence Field API # 43-039-30030 Section 24, T20S, R1E Sanpete County, Utah

	26.00	KB
	-3	Landed above GL
	-3	Compression
266	8622.91	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
	4.08	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
2	65.25	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
1	1.16	X Nipple – 2-7/8", EUE, 8rd, xxxx" ID (xxxx' MD-WLM)
1	32.38	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
1	1.41	On/off tool
1	0 .78	Seal nipple
1	6.88	Packer - Weatherford, Arrowset 1-X, 5.5" x 2.875, Ni coated (xxxx' MD-WLM)
1	1.25	XN Nipple – 2-7/8", EUE, 8rd, xxxx" ID (xxxx' MD-WLM)
1	2.15	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
1	0 .44	2 7/8" Re-entry collar
	8758.69'	KB WLM

MD	TVD	Incl	MD	TVD	Incl
2000	2000	<1	10000	9999	.1
4000	4000	<1	11000	10999	.7
6000	6000	<1	11250	11249	3.0
8000	8000	<1	11500	11498	1.1
8086	Sidetrack t	tie-in	11750	11748	4.1
8250	8249	6.0	12000	11997	5.9
8500	8499	2.6	12250	12247	.7
8750	8749	.2	12500	12497	.5
9000	8999	1.0			

#### **Stimulation**

6/23/08 - Perforation breakdowns using ball sealers and 4% KCl were performed on initial Navajo 1 completions.

1/13/09 - Fracture stimulated Navajo 2 (12,290' - 12,316')

7/26/10 - Fracture stimulated Navajo 1 (8998' - 9020')

#### <u>Notes</u>

Surface Location: Latitude = 39.05594222, Longitude = -111.75812931 (NAD 83)

(2/27/08) Design top of Cement behind 5-1/2" casing @ 4000'

(3/27/08): Available Logs: Schlumberger- HRLLA, FMI, CN/LDL, BCS, GR Correlation (in9-5/8"), ISCE Selman- mud log

#### **Wellhead Information**

#### **Tubing head flange:**

7-1/16", 10k with flanged connection

#### **Tubing hanger:**

Seaboard SM-R-N 7 1/16" x 2 7/8" Part Number A31815-001
3 - S-Seal Part Number A16978-002
2 - O-Ring Part Number 030562-004
2 7/8" AB Mod Seal insert Part Number 344406-000

#### **Tubing head:**

Cameron Type C, 11" API 10k x 7 1/16" with Double "P" Seal bottom Casing valve ports – 1 13/16" API 10k

Outside casing valve is to the 13-3/8" x 9-5/8" annulus Inside casing valve is to the 9-5/8" x 5-1/2" annulus





1442 E Hwy 40 P.O. Box 429 Vernal, UT 84078 P435-781-0434 F435-789-5656

**Wolverine Gas & Oil** 20-3/4" 3,000# X 20" SOW Casing Head 20-3/4" 3,000# X 13-5/8" 5,000# Casing Spool 13-5/8" 5,000# X 11" 5,000# Casing Spool 11" 5,000# X 7-1/16" 10,000# Tubing Head

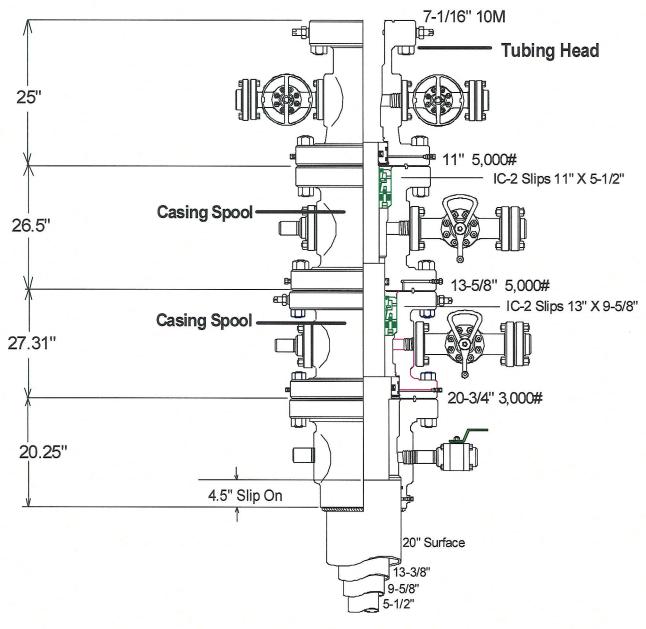
#### Casing program

20"

13-3/8"

9-5/8"

5-1/2"



Form 3160-5 (April 2004)

Subsequent Report

Final Abandonment Notice

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

#### SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

FORM APPROVED
OM B No. 1004-0137
Expires: March 31, 2007

#### 5. Lease Serial No. UTU-80907

6. If Indian, Allottee or Tribe Name

abalidoned w	is.	NA .				
SUBMIT IN TR	IPLICATE- Other inst	de.	7. If Unit or CA/Agreement, Name and/or No Wolverine Unit			
1. Type of Well Oil Well	. Type of Well Old Gas Well Old Other Other					
2. Name of Operator Wolverine G	Wolverine Federal Arapien Valley 24-1					
<ol> <li>Name of Operator Wolverine Gas and Oil Company of Utah, LLC</li> <li>Address</li> <li>Campau NW, Grand Rapids, MI 49503</li> <li>Address</li> <li>616-458-1150</li> </ol>			ode)	9. API Well No. 43-039-30030  10. Field and Pool, or Exploratory Area		
4. Location of Well (Footage, Sec., T., R., M., or Survey Description)				Wildcat		
2331' FNL, 549' FWL, Sec. 24	, T20S, R1E, SLB&M			11. County or Parish, State		
				Sanpete	County, Utah	
12. CHECK A	PPROPRIATE BOX(ES) TO	INDICATE NATURE OF	NOTICE, RI	PORT, OR	OTHER DATA	
TYPE OF SUBMISSION		TYPE OF	ACTION			
Notice of Intent	Acidize Alter Casing		Production (Star Reclamation	t/Resume)	Water Shut-Off Well Integrity	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

New Construction

Plug and Abandon

Plug Back

Recomplete
Temporarily Abandon

Water Disposal

The Wolverine Federal Arapien Valley 24-1 packer assembly was replaced and the work concluded on 9/20/2011. Surface pressure was noted on the backside during shut-in and the packer was consequently pulled for replacement and observation. The seals on the pulled packer had clearly failed due to exposure to CO2. A new packer with CO2 approved seals was run and set above the producing interval at 8751'. The well is currently shut-in until further notice.

RECEIVED

OCT 1 8 2011

Casing Repair

Change Plans

Convert to Injection

DIV. OF OIL, GAS & MINING

## RECEIVED

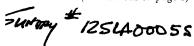
Other Install New Packer

OCT 7 2011

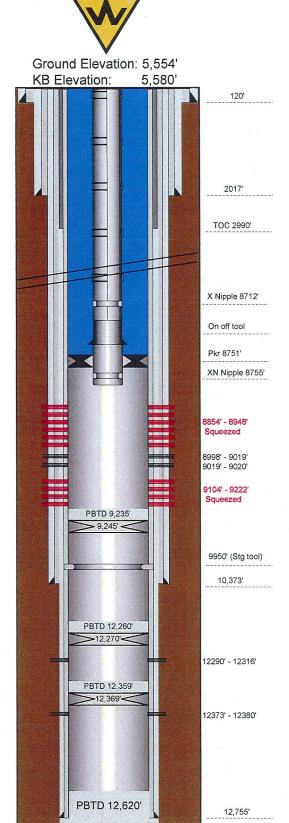
### Richfield BLM Field Office

14. I hereby certify that the foregoing is true and correct Name (Printed/Typed)	!			
Matthew Rivers	Title	Production Engine	er	
Signature ###	Date		10/05/2011	
THIS SPACE FOR FEDERAL	OR	STATE OFFIC	CE USE	
Approved by		Title		Date
Conditions of approval, if any, are attached. Approval of this notice does not warrar certify that the applicant holds legal or equitable title to those rights in the subject le which would entitle the applicant to conduct operations thereon.		Office		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any States any falce fictitious or fraudulent statements of representations as to any mother	person	knowingly and willfu	illy to make to a	ny department or agency of the United

(Instructions on page 2)



CONFIDENTIAL



TD =13,050' KB

WOLVERINE

Wolverine Federal Arapien Valley 24-1 Providence Field API # 43-039-30030 Section 24, T20S, R1E Sanpete County, Utah

### (Not to Scale)

#### Vertical Well

Surface: 2331' FNL 549' FWL, SW NW, 24-20S-1E

Total Depth (Estimated): 2383' FNL 617' FWL, SW NW, 24-20S-1E

#### Conductor Casing (10/3/07)

Size: 24", 0.25" wall in 32' hole

Depth Landed: 120' KB

Cement Data: Cemented to surface with 8 yds redi-mix

#### Surface Casing (11/14/07)

Size/Wt/Grade: 13 3/8", 68#, J-55, BTC, in 17.5" hole

Depth Landed: 2017' KB

Cement Data: 405 sks CBM Light (10.5 ppg, 4.14 cf/sk), 410 sks Type III (14.8

ppg, 1.33 cf/sk), Cemented to surface

#### Intermediate Casing (1/21/08)

Size/Wt/Grade: 9-5/8", 4737' of 53# HCP-110 and 5636' of 47# HCL-80,

LTC, 8rd in 12.5" hole Depth Landed: 10,373' KB

Cement Data: 2620 sks foamed Elastiseal (14.3 ppg, 1.48 cf/sk)

630 sks non-foamed Elastiseal (14.3 ppg, 1.48 cf/sk) Note: N2 break-through and foamed cement to surface.

#### Production Casing (2/27/08)

Size/Wt/Grade: 5-1/2", 20#, P-110, LTC, 8rd

Properties: 12,640 psi burst, 4.653" drift, 4.778" ID, 0.0221 Bbl/ft Capacity

Depth Landed: 12,755' KB,

Stage tool @ 9950' KB, Marker Joint @ 12,110'- 12,125.5'

Cement Data: Stage 1 - 735 sks 50:50 Poz-Premium (12.5 ppg, 1.85 cf/sk)

Stage 2 - 1635 sks Class G (15.5 ppg, 1.20 cf/sk)

#### Navajo1 Perforations

8998' - 9019' MD (8997' - 9018' TVD) 21' 126 holes

9019' - 9020' MD (9018' - 9020' TVD) 1' holes

8854'- 8860' MD (8853'- 8859' TVD), 6' 18 holes (squeezed) 8865'- 8871' MD (8864'- 8870' TVD), 6' holes (squeezed)

18 8881'- 8883' MD (8880'- 8882' TVD), 2' 6 holes (squeezed)

8904'- 8914' MD (8903'- 8913' TVD), 10' 30 (squeezed) holes

8920'- 8922' MD (8919'- 8921' TVD), 2' 6 holes

(squeezed)

8942'- 8948' MD (8941'- 8947' TVD), 6' 18 holes (squeezed)

9104'- 9131' MD (9103'- 9130' TVD), 27' 162 holes (squeezed)

9145'- 9154' MD (9144'- 9153' TVD), 9' 54 holes (squeezed)

9160'- 9166' MD (9159'- 9165' TVD), 6' 36 holes (squeezed)

9217'- 9222' MD (9216'- 9221' TVD), 5' holes (squeezed)

#### Navajo2 Perforations

12,290' - 12,316' MD (12,287' - 12,313' TVD), 26' 156 holes (below CIBP) 12,373' – 12,380' MD (12,370' – 12,377' TVD), 7' 42 holes (below CIBP)

#### Tubing 9/18/2011

8712' KB (2.313" ID) X-Nipple

Arrowset 1X 8748' KB

XN Nipple 8755' KB (2.313" ID)

End of BHA 8759' KB

#### **PBTD**

(7/11/10) 9,235' - 2 sacks cement on CIBP @ 9.245' (4/29/08) 12,359' - 2 sacks cement on CIBP @ 12,369'

(4/12/08) 12,620' - CBL tag



Wolverine Federal Arapien Valley 24-1 Providence Field API # 43-039-30030 Section 24, T20S, R1E Sanpete County, Utah

	26.00	KB
	-3	Landed above GL
	-3	Compression
266	8622.91	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
	4.08	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
2	65.25	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
1	1.16	X Nipple – 2-7/8", EUE, 8rd, xxxx" ID (xxxx' MD-WLM)
1	32.38	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
1	1.41	On/off tool
1	0 .78	Seal nipple
1	6.88	Packer - Weatherford, Arrowset 1-X, 5.5" x 2.875, Ni coated (xxxx' MD-WLM)
1	1.25	XN Nipple – 2-7/8", EUE, 8rd, xxxx" ID (xxxx' MD-WLM)
1	2.15	Tubing - 2-7/8", 6.5#, L-80, EUE, 8rd
1	0 .44	2 7/8" Re-entry collar
	8758.69'	KB WLM

MD	TVD	Incl	MD	TVD	Incl
2000	2000	<1	10000	9999	.1
4000	4000	<1	11000	10999	.7
6000	6000	<1	11250	11249	3.0
8000	8000	<1	11500	11498	1.1
8086	Sidetrack t	ie-in	11750	11748	4.1
8250	8249	6.0	12000	11997	5.9
8500	8499	2.6	12250	12247	.7
8750	8749	.2	12500	12497	.5
9000	8999 <i>,</i>	1.0			

#### **Stimulation**

6/23/08 - Perforation breakdowns using ball sealers and 4% KCI were performed on initial Navajo 1 completions.

1/13/09 – Fracture stimulated Navajo 2 (12,290' - 12,316')

7/26/10 - Fracture stimulated Navajo 1 (8998' - 9020')

#### **Notes**

Surface Location: Latitude = 39.05594222, Longitude = -111.75812931 (NAD 83)

(2/27/08) Design top of Cement behind 5-1/2" casing @ 4000'

(3/27/08): Available Logs: Schlumberger- HRLLA, FMI, CN/LDL, BCS, GR Correlation (in9-5/8"), ISCE Selman- mud log

#### Wellhead Information

#### Tubing head flange:

7-1/16", 10k with flanged connection

#### Tubing hanger:

 Seaboard SM-R-N 7 1/16" x 2 7/8"
 Part Number A31815-001

 3 - S-Seal
 Part Number A16978-002

 2 - O-Ring
 Part Number 030562-004

 2 7/8" AB Mod Seal insert
 Part Number 344406-000

#### Tubing head:

Cameron Type C, 11" API 10k x 7 1/16" with Double "P" Seal bottom Casing valve ports – 1 13/16" API 10k

Outside casing valve is to the 13-3/8" x 9-5/8" annulus Inside casing valve is to the 9-5/8" x 5-1/2" annulus





1442 E Hwy 40 P.O. Box 429 Vernal, UT 84078 P435-781-0434 F435-789-5656

Wolverine Gas & Oil 20-3/4" 3,000# X 20" SOW Casing Head 20-3/4" 3,000# X 13-5/8" 5,000# Casing Spool 13-5/8" 5,000# X 11" 5,000# Casing Spool 11" 5,000# X 7-1/16" 10,000# Tubing Head

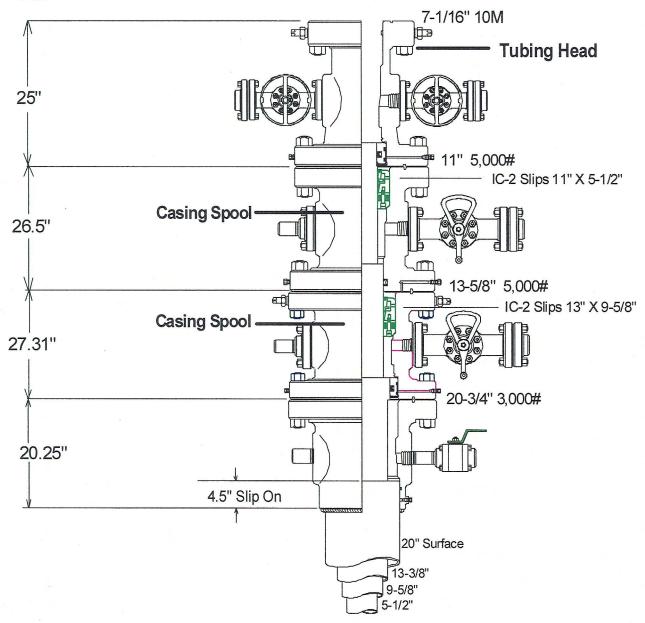
#### Casing program

20"

13-3/8"

9-5/8"

5-1/2"



Form 3160-5 (August 2007)

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

FORM APPRO	VED
OMB No. 1004-	0137
Evniroe: July 31	2010

5. Lease Serial No. UTU-80907

6. If Indian, Allottee or Tribe Name

# SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

7. If Unit of CA/Agreement, Name and/or No. SUBMIT IN TRIPLICATE - Other instructions on page 2. Wolverine Federal Unit 1. Type of Well 8. Well Name and No. Wolverine Federal Arapien Valley 24-1 Oil Well Gas Well Other Name of Operator
 Wolverine Gas and Oil Company of Utah, LLC 9. API Well No. 43-039-30030 10. Field and Pool or Exploratory Area 3a. Address 3b. Phone No. (include area code) 5 West Constitution Way, Suite 1140, Richfield, Utah 84701 435-896-1943 4. Location of Well (Footage, Sec., T., R., M., or Survey Description) 11. Country or Parish, State Sanpete, Utah 2331' FNL, 549' FWL, Section 24, T20S, R1E, SLM 12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA TYPE OF SUBMISSION TYPE OF ACTION Acidize Deepen Production (Start/Resume) Water Shut-Off ✓ Notice of Intent Alter Casing Fracture Treat Reclamation Well Integrity ✓ Other Construct flowline New Construction Casing Repair Recomplete Subsequent Report Change Plans Plug and Abandon Temporarily Abandon Final Abandonment Notice Convert to Injection Plug Back Water Disposal 13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days

SEE ATTACHED EXHIBIT FOR PROJECT DESCRIPTION, METHODS OF CONSTRUCTION AND SUMMARY

following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has

Federal lease bond WYB000616 (replaces WY 3329)

determined that the site is ready for final inspection.)

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OCT 0 8 2011

Richfield BLM Field Office

14. I hereby certify that the foregoing is true and correct. Name ( <i>Printed/Typed</i> )	
Charlie Irons	Title Senior Landman
Signature Charlie Drons	Date 10/06/2011
THIS SPACE FOR FEI	DERAL OR STATE OFFICE USE
Approved by L. Aud	Title SNRS Date Nov. 8, 2011
Conditions of approval, if any, are attached. Approval of this notice does not warrant that the applicant holds legal or equitable title to those rights in the subject lease which entitle the applicant to conduct operations thereon.	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for an	by person knowingly and willfully to make to any department or agency of the United States any f

(Instructions on page 2)

**Conditions of Approval Attached** 

fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Surry# 1251400085

#### **GENERAL INSTRUCTIONS**

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

#### SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13 - Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment.

#### NOTICES

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and grantingapproval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

**BURDEN HOURS STATEMENT:** Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

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DIV. OF OIL, GAS & MINING

### Exhibit to Sundry Notice dated October 6, 2011 Providence Field—Installation of New Produced Fluid Flowline

### **Project Description**

Wolverine Gas and Oil Company of Utah, LLC (Wolverine) proposes to install the following facilities on BLM administered land in Sanpete County, Utah, T20S-R1E, Section 24: portion of W2W2, & Section 23: portion of NE4SE4:

- Two 3½ -inch (Fiberspar) lines—for carrying main flow of fluids from well(s).
- One 4-inch PVC line as conduit for a high-voltage electric transmission line—for possible future use in connecting electric power between the Providence Fed 24-4 well pad and the Wolverine Fed Arapien Valley 24-1 well pad.

The primary purpose of the project is to install a flowline to bring produced fluids (oil, gas and water) from the AV 24-1 well (and possibly a future well) to a single production facility to be located on the existing PF 24-4 well pad. At the PF 24-4 pad production equipment will separate oil, gas and water, using a two-stage separation process; i.e., high pressure separation and then a low pressure separation, where the oil and water will be directed to existing storage tanks and where produced gas will be collected, compressed and injected into the PF 24-4 (which will be converted to an injection well) that will accept injected gas continuously and produced water intermittently.

The secondary purpose of the project is to have an extra flowline and a high voltage electric line already in place—in the event future development might require them—avoiding the need to excavate an additional trench at a later time.

The installation would consist of one trench, 4½ feet deep by about two feet wide, commencing at a tie-in on the PF 24-4 pad and running northerly from the edge of pad cross-country a distance of approximately 1150 feet to a point of intersection with the access road to the AV 24-1 well. The trench would then be excavated to a depth of 6½ feet, running a course a few feet east of the road centerline a distance of approximately 980 feet to the edge of the AV 24-1 well pad, from which point it will extend to a tie-in to the operation facilities on the well pad. Total distance of pipeline from edge of PF 24-4 pad to edge of AV 24-1 pad is approximately 2130 feet.

The corridor (disturbed area) is expected to be 20 feet wide; all work will take place within this corridor. An exception to that corridor width is the wash area on the north end of the PF 24-4 well pad, where a corridor of 30 feet will be necessary to make the wash crossing. Another exception to the 20-foot corridor is a staging area, to be 30-feet wide, beginning 50 feet easterly of the lease road/pipeline intersection and running 50 feet northerly of the intersection. This staging area will be necessary in order to pull pipe and conduit around the turn in the trench.

See attached drawing sheets and area map for the location and design of the facilities.

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#### Methods of Construction

A trencher would be used to excavate the portion of the trench that has a twenty-foot corridor. Prior to construction the corridor would be cleared and grubbed of vegetation, where necessary. The spoil from the trench would be stockpiled on both sides of the trench, as results from the normal operation of the trenching machine. Because topsoil would not be removed except for the 2-foot wide trench area, no separate stockpiling of topsoil is planned. The work area would be within the 20-foot corridor. The exception to that process is the wash area on the north end of the PF 24-4 well pad, where a track-hoe will be used to install the pipeline below the bottom of the wash, and to shape and contour the wash back to near its original contour after installation. Flowable fill concrete will be used to bed the lines in the wash area, to secure the facilities and protect them from erosion.

Wolverine's contractors would excavate the trench, deposit a screened native soil or sand bedding, install the electric line conduit on one side and the Fiberspar lines on the opposite side of the trench, cover lines with additional bedding, then fill and compact with native soil in successive layers so as to assure maximum compaction. The entire corridor would be seeded along the length of the cross-country disturbed area, and the roadsides of the lease road, where disturbed.

The construction of the proposed New Produced Flowline Project is estimated to take 10 to 15 days, weather permitting, and is anticipated to commence in December, 2011, or January, 2012. The staging area for equipment involved in the construction would be on the well pads of the AV 24-1 and PF 24-4 wells.

#### Summary

All work will take place on BLM land. No other federal, state or local governmental agencies or private authority are involved in permitting this action.

Class I and Class III Cultural Resources Inventories of the corridor were conducted by Bighorn Archaeological Consultants on September 15, 2011. The report has been submitted to the appropriate agencies, including the BLM Richfield Field Office. No cultural sites were identified by the surveys.

A threatened, endangered and sensitive plant species study of the corridor was performed by Rocky Mountain Environmental Research on September 20, 2011. A report was submitted to Larry Greenwood of the BLM Richfield Field Office. No protected plant species were found.

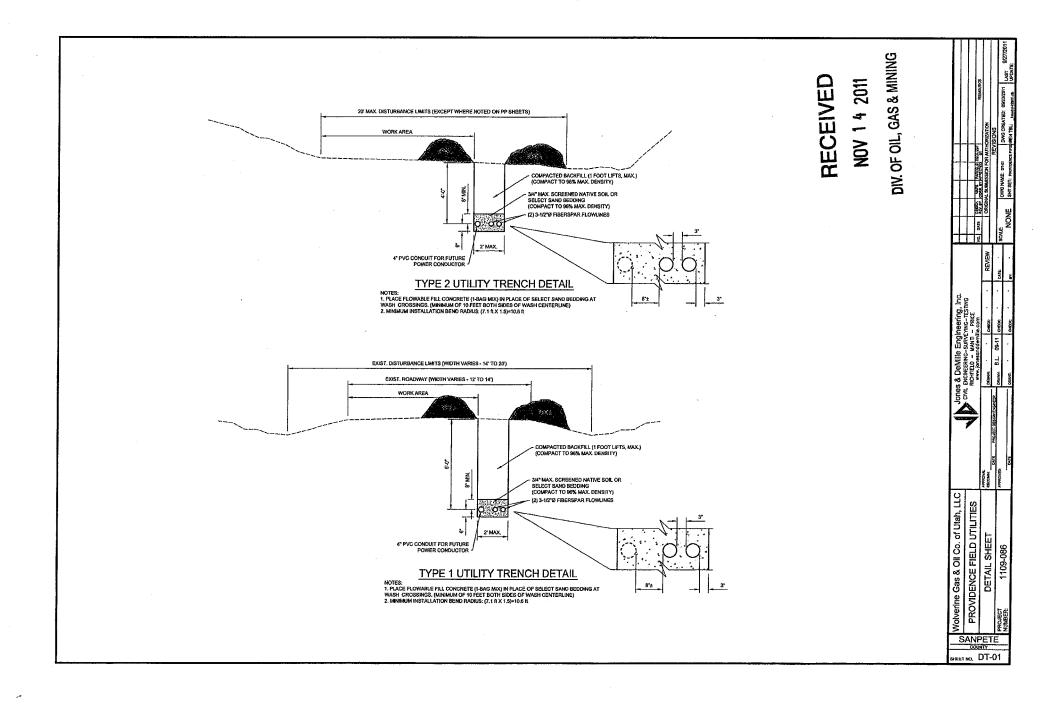
Wolverine hereby submits this Sundry Notice for BLM approval for an on-lease flowline installation on lease #UTU-80907.

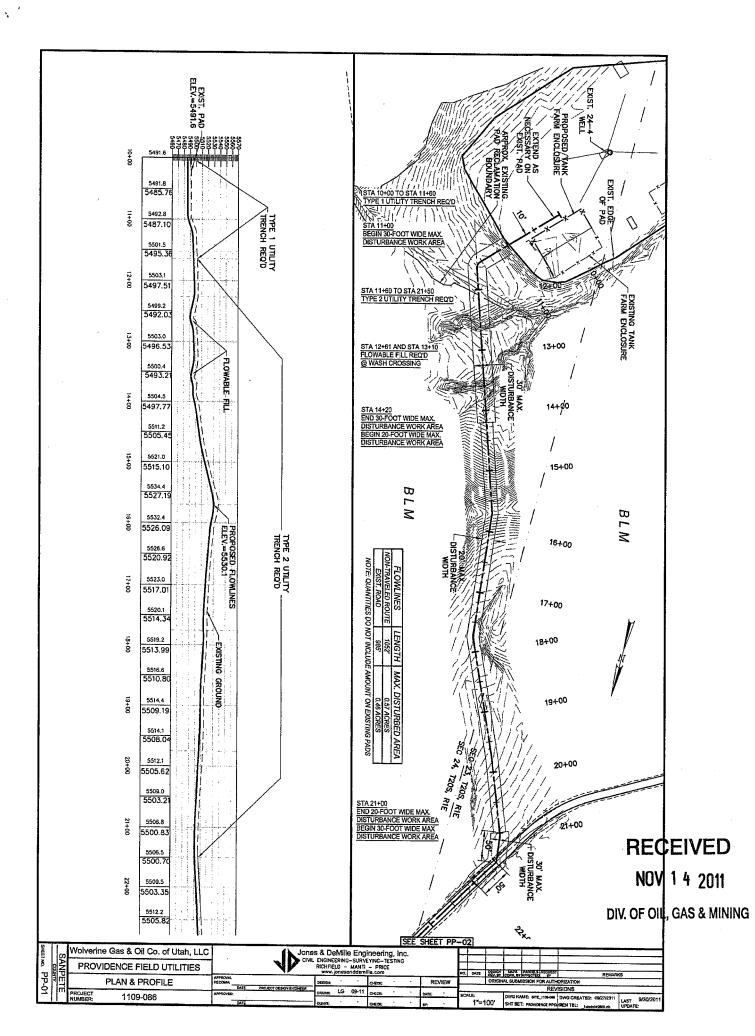
Wolverine has a Federal lease bond, WYB000616.

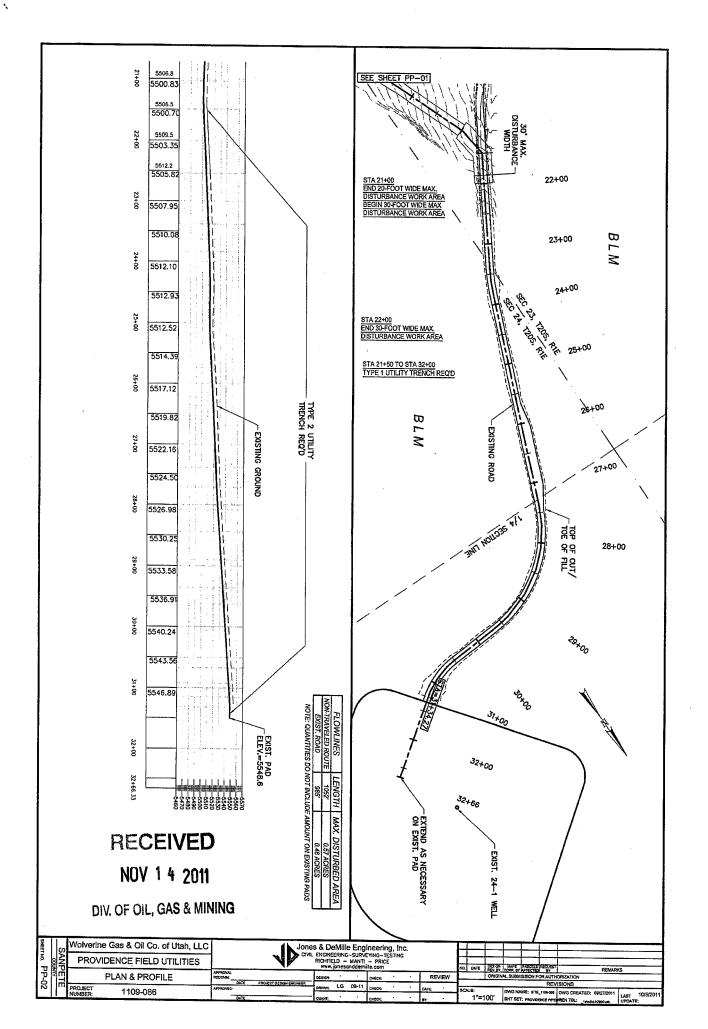
Submitted October 6, 2011, by Charlie Irons.

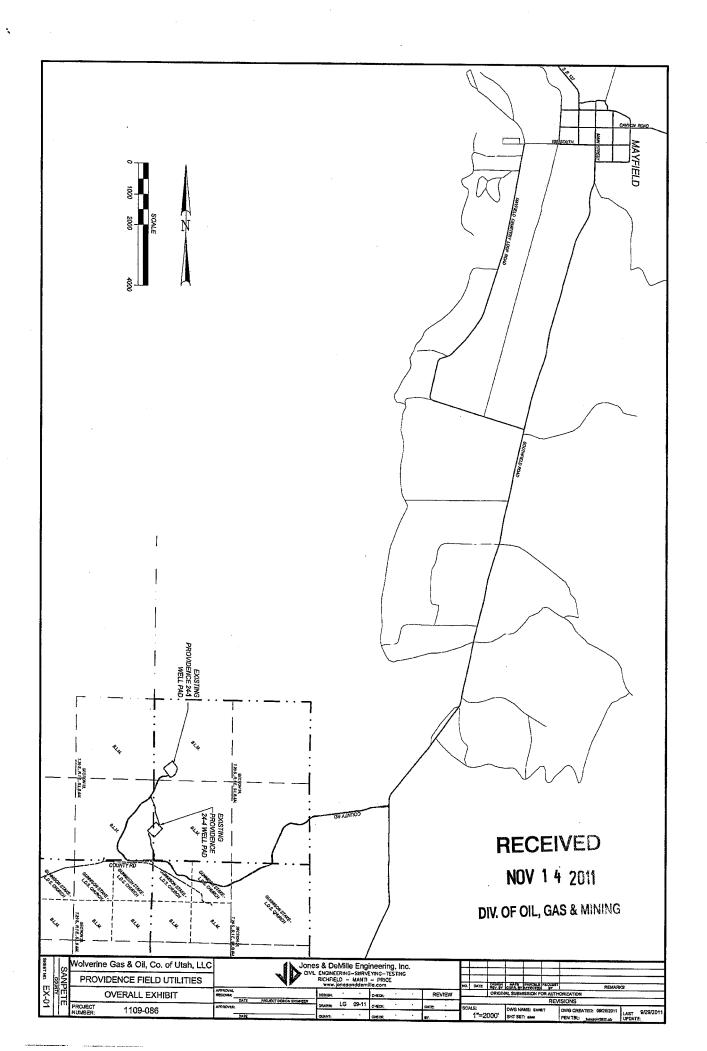
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### **Conditions of Approval**

- 1. Any cultural resources be unearthed, surface-disturbing activities will be re-routed to avoid or halted until the cultural sites/artifacts can be evaluated for significance, and a mitigation/salvage plan be formulated. These actions will successfully mitigate possible impacts to cultural resources such that a detailed analysis will not be not required.
- 2. All dirt/gravel type materials brought in from off site for pipeline construction will come from a pit free of invasive, non-native species.
- 3. All Federal and State laws will be followed regarding use, storage and disposal of hazardous materials and solid wastes. The areas will be kept clean and free of litter and utilizing appropriate human waste facilities will be used during the operation. Waste and these facilities will be removed from the site and properly disposed of upon completion of the project. Any petroleum spills will be cleaned-up in accordance with State and Federal laws and regulations. Trash will be contained in a portable, self-contained trash cage and hauled to a sanitary landfill.
- 4. The Applicant has committed to monitoring and treating any noxious weeds along the pipeline. All equipment will be power washed to reduce the potential of introducing new weed species into the area. All disturbed areas will be reseeded the first fall after the disturbance is made to keep weeds from invading the disturbed sites.
- 5. If any vertebrate fossils are observed during construction all work will cease until consultation with the BLM has been completed.
- 6. All junk, debris, or other foreign material must be removed before initiating any dirt work to restore the location.
- 7. Fire suppression equipment will be available to suppress any wildfires caused by construction or related activities. In the event of a wildfire, the Richfield Interagency Fire Center will be notified at (435-896-8404).
- 8. Any facilities in an existing right-of-way that are damaged as a result of the oil and gas construction, operation, maintenance, or termination shall be repaired or replaced to the same condition as existed prior to the damage. Any costs for such damage or repair shall be the total responsibility of the Applicant.
- 9. Erosion control and re-vegetation measures shall be implemented to insure that the lands disturbed by construction and maintenance activities will be restored to a stable, productive, and aesthetically acceptable condition.
- 10. Notice will be provided 48 hours prior to beginning any construction activities.
- 11. An additional Sundry Notice will be submitted prior to the Providence Federal 24-4 oil well being converted to an injection well. Volumes of gas and oil will be metered prior to being injected downhole.

12. All of the seed used in reclamation will be mixed together, and will either be broadcast seeded or drill seeded. If the area is broadcast seeded then this will be done by using a four-wheeler equipped with a seeder.

#### RECOMMENDED SEED MIXTURE

Plant Species	Pounds/Acre
1) Sandberg Bluegrass (High Plains Variety)	0.5
2) Bozoisky Russian Wildrye	2.0
3) Magnar Great Basin Wildrye	1.5
4) Luna Pubescent Wheatgrass	1.0
5) Covar Sheep Fescue	2.0
6) Yellow Beeplant	0.5
7) Gooseberry Leaf Globemallow	0.5
8) Richfield Firecracker Penstemon (P. eatonii)	0.5
9) Cedar Palmer Penstemon (P. palmeri)	0.5
10) Appar Lewis Flax	2.0
11) Common Sunflower	2.0
12) Madrid Yellow Sweetclover	0.5
13) Delar Small Burnet	1.0
14) Wyoming Big Sagebrush	0.5
15) Forage Kochia	1.0

**TOTAL 16.0** 

Topsoil should be collected and piled and used in the rehabilitation process. All of the seed should be mixed together, and either be broadcast seeded or drill seeded. If the area is broadcast seeded then this should be done by using a four-wheeler equipped with a seeder. Seeding rate should be 16 pounds per acre. After broadcast seeding, then the area should be drug with a small harrow (used with four wheeler), which would cover the seed.

If the area is drill seeded then a small tractor equipped with a farm drill should be used. Seeding rate should be 8 pounds per acre.

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## STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

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Operator:

Wolverine Gas and Oil Company of Utah, LLC

Operator Account Number: N 1655

Address:

55 Campau NW, One Riverfront Plaza

city Grand Rapids

zip 49503-2616 state MI

Phone Number: (616) 458-1150

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4303930030	Wolverine Federal Ar	Wolverine Federal Arapien Valley 24-1			208	1E	Sanpete
Action Code	Current Entity Number	New Entity Number	Spud Date 10/3/2007		Entity Assignment Effective Date		
С	16417	18479				6/10/2008	
Comments: Appr	oved Providence PA					·	
nava						412	201701

Well 2

API Number	Well Name Providence Federal 24-4		QQ SWSW	<b>Sec</b> 24	<b>Twp</b> 20S	Rng	County Sanpete	
4303930040						1E		
Action Code	Current Entity Number	New Entity Number	Spud Date 12/1/2008			Entity Assignment Effective Date 6/10/2008		
С	17248	18479						
Comments: App	roved Providence PA							
Mya						41	30/201	

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
Action Code	Current Entity Number	New Entity Number	s	pud Date		Entity Assignment Effective Date	
omments:							

#### **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
   D Re-assign well from one existing entity to a new entity
- E Other (Explain in 'comments' section)

APR 3 3 2012

Jennifer Van Woerkom

Name (Please Print)

Signature

Accountant Title

4/30/2012

Date

(5/2000)

Day of Cil. Gas & Mining